DOCUMENT RESUME

ED 468 467 CE 083 801

| | |
|---|---|
| AUTHOR | Gunderson, Morley |
| TITLE | Rethinking Productivity from a Workplace Perspective. CPRN Discussion Paper. |
| INSTITUTION | Canadian Policy Research Networks Inc., Ottawa (Ontario). |
| REPORT NO | CPRN-DP-W/17 |
| PUB DATE | 2002-05-00 |
| NOTE | 74p. |
| AVAILABLE FROM | For full text: http://www.cprn.com/docs/work/ rpwp_e.pdf. |
| PUB TYPE | Information Analyses (070) |
| EDRS PRICE | EDRS Price MF01/PC03 Plus Postage. |
| DESCRIPTORS | Adjustment (to Environment); Adoption (Ideas); Adult Education; Compensation (Remuneration); Cooperation; Cultural Differences; Definitions; Educational Policy; Educational Research; Employer Employee Relationship; Employment Patterns; *Employment Practices; Federal Legislation; Foreign Countries; *Job Performance; Literature Reviews; Organizational Effectiveness; *Performance Factors; Personnel Management; Policy Formation; *Productivity; Public Policy; Quality of Working Life; Research Design; *Research Methodology; Research Problems; Supervisor Supervisee Relationship; Training; Work Attitudes; *Work Environment |
| IDENTIFIERS | Best Practices; Canada; Global Economy; Hawthorne Effect; *Impact Studies |

ABSTRACT

The issue of increasing productivity was examined from an interdisciplinary perspective focusing on the impact of workplace practices on various productivity-related outcomes. First, the following methodological issues were discussed: defining workplace practices that affect productivity; linking employer behavior and organizational performance; dealing with the complexity of interrelated factors; reverse causality; bias from selection into the program; bias from the research and publication process; biases from reverting to normal; the Hawthorne effect; and short-run versus long-run effects. Next, the impacts of the following workplace practices on productivity were analyzed with consideration for those methodological issues: job design; employee involvement; compensation; alternative work time arrangements; training; diversity management; and workplace well-being programs. Most of those workplace practices had positive effects on employees, which in turn positively affected firm performance, productivity, and competitiveness. Success of the workplace practices was enhanced when they were combined in clusters, integrated to fit overall corporate strategy, and supported by managers, supervisors, and unions. The analysis identified 11 barriers to adoption and diffusion of "best" workplace practices, including the following: managerial resistance, employee resistance, union resistance, legislative barriers, short-term focus, workplace practices as a source of competitive advantage, barriers to cooperative actions, and externalities and the fact that trained employees may be lured away by other companies. (Contains 433 references.) (MN)

Reproductions supplied by EDRS are the best that can be made
from the original document.

ED 468 467

## CPRN Discussion Paper

# RETHINKING PRODUCTIVITY FROM A WORKPLACE PERSPECTIVE

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
☒ This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

by

MORLEY GUNDERSON

PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL HAS BEEN GRANTED BY
J. Maxwell
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
1

May 2002

CPRN Discussion Paper No. W|17

CE 083 801

CPRN RCRPP

Canadian Policy Research Networks
250 Albert Street, Suite 600
Ottawa, ON K1P 6M1
http://www.cprn.org

2

**Canadian Policy Research Networks Inc. (CPRN)**
600-250 Albert Street, Ottawa, Ontario K1P 6M1
Tel: (613) 567-7500 – Fax: (613) 567-7640
Web Site: http://www.cprn.org

# Rethinking Productivity from a Workplace Perspective

Discussion Paper W|17

by

Morley Gunderson

© 2002 Canadian Policy Research Networks Inc.

## Table of Contents


**Foreword** i

**Executive Summary** ii

**Introduction** 1

**Pressures Giving Rise to New Workplace Practices** 4

**Methodological Issues in Measuring Impacts** 5
- Defining Workplace Practice and Productivity 5
- Link between Employee Behaviour and Organisational Performance 6
- Dealing with the Complexity of Interrelated Factors 6
- Reverse Causality 7
- Bias from Selection into the Program 7
- Bias from the Research and Publication Process 8
- Biases from Reverting to Normal 9
- Hawthorne Effect 9
- Short-run Versus Long-run Effects 10
- Concluding Observations on Methodological Issues 10

**Workplace Practices** 11
- Job Design 11
- Employee Involvement 13
- Compensation 14
- Alternative Work Time Arrangements 16
- Training 17
- Diversity Management 19
- Workplace Well-being Programs 20

**Barriers to Diffusion** 23
- We Do Not Know What Works 23
- We Do not Know if It Works in a Different Environment 23
- Managerial Resistance 24
- Employee Resistance 24
- Union Resistance 25
- Legislative Barriers 26
- Short-term Focus 26
- Workplace Practices as a Source of Competitive Advantage 27
- Barriers to Co-operative Actions 28
- Externalities and the Poaching Problem 28
- Public Goods Nature of Workplace Innovations 29

**Overview, Policy Implications and Needs for Further Research** 31

**Notes** 34
**References** 40
**Funders** 63

## Foreword

There is now almost universal angst about Canada's productivity performance in recent decades because productivity is the key to growing the Canadian economic pie.

For businesses, productivity is crucial for growth and survival in an era of intense competition and global markets. For employees, productivity is vital for job security and sustained real wage growth. And for governments, productivity growth is essential for keeping unemployment levels low, maintaining economic growth, and sustaining the tax revenues needed to support Canada's social safety net.

Most observers examine productivity from a macroeconomic perspective, considering the contributions of factors like tax rates, R&D, regulation, and so on, yet the heart of productivity growth generally lies within firms. Too often they overlook how firms organize, treat, and make use of their human resources and the impact this has on workplace productivity. CPRN invited Professor Morley Gunderson of the Centre for Industrial Relations at the University of Toronto to address the workplace issues for us in a comprehensive fashion.

Gleaning information from a wide range of research literature in the fields of economics, industrial relations, human resource management, sociology, and organisational behaviour, Dr. Gunderson examines how job design, employee involvement, compensation strategies, work-time arrangements, training, diversity management and workplace well-being programs are believed to affect workplace productivity. He also highlights the difficulties faced in trying to make the direct link between innovative management practices and productivity outcomes, and notes the barriers that inhibit firms from adopting new workplace strategies. One of these barriers is itself the fuzzy causal link between practices and productivity.

Dr. Gunderson's review draws together literature from many disciplines to create a cogent framework. Consequently, the report provides an excellent overview for researchers and policy analysts who are new to the field, as well as providing an opportunity for more seasoned researchers and analysts to review findings that may be outside their usual frame of reference.

I would like to thank Dr. Gunderson for his work. I would also like to thank Kathryn McMullen and Graham Lowe for their comments and suggestions on earlier versions of this paper, and Adam Seddon for providing early assistance in the development of the bibliography.

Judith Maxwell
May 2002

## Executive Summary

In the global economy, where the prices of goods and financial and physical capital are increasingly determined and fixed in world markets, the main source of comparative advantage lies in the strategic use of human resources via the connection of workplace practices and productivity. Most discussions of productivity have been at the *aggregate* economy-wide level related to such factors as technological change, the computer revolution, and efficiency gains from trade liberalisation and the education of the workforce. In contrast, the focus of this report is on the unit of analysis – *the workplace* – where such productivity related interactions actually take place.

The link between workplace practices and productivity is important for all stakeholders – employers, employees and governments. For employers, productivity is crucial for competitive survival under global competition. For employees, it is important for job security and sustained real wage growth. For governments, enhanced productivity is important for sustainable growth, reduced unemployment, tax revenue generation, and for providing the means for a social safety net and social programs in general.

There is also growing recognition of the link between workplace issues and broader issues of health and well-being. Enhanced productivity that is generated through increased stress and loss of control at the workplace can be a false economy in the sense that it generates negative health outcomes and health expenditures. On the other hand, productivity improvements at the workplace, generated through more positive mechanisms outlined subsequently, can enhance compensation and job stability, which in turn can enhance health and well-being.

An interdisciplinary perspective is taken in this paper, focussing on two interrelated issues:

- The impact of workplace practices on various outcomes, especially related to productivity, firm performance, competitiveness and innovation as they affect organisational performance, which in turn directly feeds into the aggregate productivity and competitiveness of the economy.

- Barriers to the adoption and diffusion of "best" workplace practices.

The workplace practices discussed here are the main ones dealt with in the literature and are most fully documented in research. They include:

- Job design, including job classifications and teams
- Employee involvement
- Compensation
- Work time arrangements
- Training
- Diversity management
- Workplace well-being programs

## *Methodological Issues*

Methodological problems in evaluating the impact of workplace and human resource practices on firm-level productivity and competitiveness are identified and analysed. These include:

- Defining and distinguishing different workplace practices (especially when they are combined in bundles and have key interactions) and defining and measuring productivity and competitiveness outcomes at the workplace level;
- Establishing the link between employee attitudes (satisfaction, motivation, commitment) and behaviour (absenteeism, turnover, effort) on the one hand, and organisational performance on the other hand;
- Dealing with the complexity of interrelated factors that can affect firm performance, especially when they are often linked to changing workplace practices;
- Reverse causality may run from firm productivity and performance influencing the establishment of different workplace and human resource practices;
- Bias from various factors including: selection of particular employees into the workplace or human resource program; selection of the evaluation results that get published or expounded in the media; and biases from introducing workplace practices to deal with temporary crisis situations that may revert to normal;
- Hawthorne effects whereby employees respond to any change; and
- Difficulties in evaluating the *long-run* impacts of the new workplace practices.

## *Key Findings*

These methodological limitations of the evaluation studies suggest that the following generalisations that emerge from the evaluation studies should be regarded with appropriate caution:

- Most of the new workplace practices such as the job design features associated with high performance work systems, employee involvement, pay for performance, compressed workweeks and flexitime, work sharing and job sharing, multi-skill training, diversity management, and workplace well-being programs had positive effects on employees (satisfaction, tardiness, absenteeism, commitment, motivation, effort, performance) which in turn positively affected firm performance, productivity and competitiveness.

- Success of the workplace practices was enhanced when they were: (1) combined in *clusters* or bundles of reinforcing practices, (2) integrated to *fit* with the overall corporate strategy of the business, (3) *supported* by managers, supervisors and the union, if present.

- These ingredients of success were generally easier to combine in new Greenfield sites, unencumbered by historical practices.

- In part because of the importance of clustering and integrating to fit with the corporate strategy, it is not feasible to rank the different workplace practices in terms of their *individual* effect on individual and firm performance – in essence, *context* and *fit* matters.

- In general, but not always, practices that led to more favourable employee attitudes in areas such as satisfaction, morale and commitment, also led to more favourable performance outcomes for the individuals and their firms.

- While favourable outcomes typically occurred for employees, unfavourable by-products also often occurred in such forms as stress, and polarisation between "good jobs" and "bad jobs."

### *Barriers to Adoption*

In view of these generally favourable outcomes for employee attitudes and performance, and ultimately for firm performance, the question of why such practices are not more readily adopted and diffused becomes paramount. A wide range of barriers to diffusion were outlined, including:

- A substantial degree of uncertainty (in part because of the methodological problems of evaluating workplace practices) over which practices work best and how they work best with respect to their combinations, workplace context and employee characteristics.

- Resistance on the part of the different stakeholders – managers, employees and their unions – especially if they have a vested interest in the former status quo, and are threatened by the change.

- Legislative barriers whereby restrictions in the legislation may inhibit or at least discourage change.

- The short-term focus that often characterises the time horizon of many of the stakeholders.

- The reluctance to share information on workplace practices when they can be a source of competitive advantage.

- Barriers to co-operation reflecting such factors as the legacy of adversarialism, the differential costs and benefits associated with co-operation, and federal-provincial tensions.

- Difficulties of determining the benefits and costs to different stakeholders, especially of human capital investments, and hence of determining who should pay, coupled with difficulties of paying or borrowing on the part of employees.

- Difficulties of appropriating the benefits of innovative workplace practices when the successful ones may be quickly emulated by others, including competitors.

### *Research Needs*

The previous discussion highlighted a variety of policy implications and areas in need of further research, including:

- It is likely to be more fruitful to *focus* government intervention onto areas where the incentives for the private parties themselves have broken down. That is, rather than dissipating policy intervention into areas where the private parties themselves have more information and expertise – and hence where public intervention may do little good, and even do harm – it may be more fruitful to focus public intervention on areas where the mechanisms of the market and collective bargaining may break down in providing what could be considered as the socially optimal amount of innovation and diffusion of workplace practices.

- Such a breakdown could occur because employers may not have sufficient incentive to innovate in this area because they bear the full cost of their innovation but cannot appropriate the full return. Government subsidies to organisations to encourage such innovation is not likely feasible, although awards could be made in areas such as diversity management. Co-operative collective mechanisms like Sector Councils could be encouraged to internalise the spillover benefits within an industry. The same applies to labour-management co-operation in general to assist the parties to escape from the prisoner's dilemma of non-cooperative behaviour. Governments can play an important role in bringing stakeholders together to devise research agendas that will have practical relevance, and to disseminate the results of that research, as well as information on what works and what does not work in this important area. Loans for individuals to finance human capital formation could be considered (just as student loans exist) given the inability of individuals to use their human capital as collateral for a loan.

- Governments could also do their own experimentation in innovative workplace practices, revealing the information about what works and what does not work in this area. Doing this in Crown corporations could be particularly informative since Crown corporations run the gamut, with some being close to government departments, and others being close to private corporations.

- On the research side, it is tempting to simply conclude that more research is needed on the effectiveness of any and all workplace practices. As indicated by the vast literature that already exists (and that is only illustrated here), more mileage is likely to be gained by synthesising that literature and by encouraging multidisciplinary interaction. A smaller number of high quality studies incorporating the best techniques of the different disciplines are likely to be more fruitful than a larger number of lower quality studies in a variety of different disciplines.

- Data that link behavioural outcomes of individual employees to the workplace practices of their organisations is likely to be particularly useful to facilitate testing for the key interactions and clusters that are important, and the context in which they will work.

- More conceptual research is also merited on the barriers to workplace innovation and the diffusion of that innovation, and perhaps getting information from the parties about the importance of those barriers. Reducing such barriers could be a very cost-effective way of encouraging those closest to the workplace – the private parties themselves – to develop best practices in this increasingly important area.

## Introduction

There is general agreement that productivity is the key to competitiveness in higher wage countries that do not want to compete on the basis of a low-wage strategy. In this context, most discussions of productivity have been at the aggregate level related to such factors as technological change, the computer revolution, and efficiency gains from trade liberalisation and the education of the workforce. These are important, but productivity essentially emanates from the *workplace* and hence the link between workplace practices and productivity and competitiveness – the focus of this analysis – becomes crucial. Workplace practices can be an independent source of productivity and competitive advantage, and they can be a facilitator or a barrier to the productivity gains that can come from the more aggregate factors – hence the emphasis in this paper on productivity at the workplace level.

In the global economy, where the prices of goods and financial and physical capital are increasingly determined and fixed in world markets, the main source of comparative advantage lies in the strategic use of human resources via the connection of workplace practices and productivity. Higher wage developed countries cannot compete with the growing number of low-wage developing countries on the basis of low labour costs; hence higher productivity to sustain the higher wages is the only option. The issue is compounded by the fact that low-wage countries that used to be low-productivity countries, are increasingly becoming low-wage and *high*-productivity countries. For developed countries, standing still is not an option.

In the information economy, knowledge management and the management of change are crucial components of firm performance and competitiveness. Human resource policies and workplace practices are crucial to link knowledge and change management with firm performance and competitiveness. Practices at the workplace can be a barrier or a facilitator in that crucial link.

There is also general recognition that for human resource management (HRM) issues to be "at the table" in the strategic planning of organisations[1] – and such strategic planning is crucial for global survival – the human resource issues must be linked to the performance of the organisation. Otherwise, labour will be thought of as a "cost to be minimised" rather than a strategic source of competitive advantage.

The policy discussion on productivity has evolved into a broader discourse on innovation. This is evidenced, for example, in Canada's Innovation Strategy as set out in two reports. The title of those reports – *Achieving Excellence: Investing in People, Knowledge and Opportunity* (Industry Canada, 2002), and *Knowledge Matters: Skills and Learning for Canadians* (Human Resources Development Canada, 2002) – attest to the importance of the workplace as a site for developing and using human capital to facilitate innovation and productivity. This is further illustrated by a recent HRDC\ OECD (2001) symposium emphasising the importance of human capital and social capital in achieving sustained growth. It is also illustrated in works by policy analysts like Courchene (2001) as evidenced by the title of his recent book: *A State of Minds: Toward a Human Capital Strategy Future for Canadians*.

The link between workplace practices and productivity is important for all stakeholders – employers, employees and governments. For employers productivity is crucial for competitive

survival under global competition. For employees it is important for job security and sustained real wage growth. For governments enhanced productivity is important for sustainable growth, reduced unemployment, tax revenue generation, and for providing the means for a social safety net and social programs in general. A growing economic pie is easier to divide than is a shrinking pie, thereby easing distribution issues, which are a crucial concern of governments.

There is also growing recognition of the link between workplace issues and broader issues of health and well-being. Enhanced productivity that is generated through increased stress and loss of control at the workplace can be a false economy in the sense that it generates negative health outcomes and health expenditures. On the other hand productivity improvements at the workplace, generated through more positive mechanisms outlined subsequently, can enhance compensation and job stability, which in turn can enhance health and well-being.

In essence, the way in which productivity is enhanced and the productivity gains shared are important. Productivity improvement is not a be-all or end-all, especially as it relates to the workplace. It is a means to an end, not an end in itself. The larger goal is higher living standards and improved quality of life as well as broader social access to that quality of life for the "have-nots" who are otherwise marginalized and excluded. Hence productivity improvements have to be evaluated relative to their side effects, as well as to how their benefits are distributed. A growing pie that is less equitably distributed need not be a societal improvement, especially if it leads to growing tensions between the "haves" and the "have-nots" and social expenditures to deal with the adverse consequences of those tensions. Understanding the distributional consequences of the link between workplace practices and productivity thereby also becomes crucial.

The analysis of the link between workplace practices and productivity is complicated by the fact that it involves a variety of disciplines that often do not "speak to one another." Often *within* each discipline they do not even speak to each other, especially since labour-management issues are so often involved. The disciplinary perspectives include:

- economics with its emphasis on market forces;
- industrial relations with its emphasis on unions and collective bargaining;
- human resource management with its emphasis on strategic management issues associated with the personnel function;
- sociology with its emphasis on social relations, power and conflict among groups;
- organisational behaviour with its emphasis on psychological aspects of the individual; and
- organisation theory with its macro emphasis on organisational structure, culture and processes, especially involving transformations over time.

Our task – and challenge – in this analysis is to examine and synthesize the literature across these different disciplines. The challenge is compounded by the fact that the different disciplines often use quite different methodologies and languages. A multidisciplinary perspective is crucial,

however, given that the workplace involves the interaction of labour and management embedded in the structure of the employer organisation (often influenced by the union organisation), and subject to the constraints imposed by the economic environment and the social interactions of the organisation.

As such, this paper takes an interdisciplinary approach, given the complex nature of the issues, and the fact that in workplaces, social and economic policy goals converge. Major streams of research in the key disciplines are covered with an emphasis on extracting the "balance of the evidence" and the broad direction of the studies.

The focus of our analysis is on two interrelated issues:

- The impact of workplace practices on various outcomes, especially related to productivity, firm performance, competitiveness and innovation as they affect organisational performance, which in turn directly feeds into the aggregate productivity and competitiveness of the economy; and

- Barriers to the adoption and diffusion of "best" workplace practices.

The study is organised as follows. Pressures from the "new world of work" that are giving rise to the new workplace and human resource practices (the terms are used interchangeably here) are first discussed to set the context in which the changes are occurring. Methodological issues in measuring the impact of workplace practices on productivity and competitiveness are then discussed. The various workplace practices are analysed and their impact on productivity and competitiveness summarised. The workplace practices discussed here are the main ones dealt with in the literature and are most fully documented in research. They include:

- Job design, including job classifications and teams
- Employee involvement
- Compensation
- Work time arrangements
- Training
- Diversity management
- Workplace well-being programs

## Pressures Giving Rise to New Workplace Practices

From the employer's perspective, global competition has increased the premium on flexibility and adaptability, and this in turn has increased the need for a flexible and adaptable workforce, often involving alternative work time arrangements and non-standard employment. The emphasis on quality products has led to pressure on workers to deliver quality, and to questioning of the traditional adversarial system and more attention to co-operative solutions to labour management differences. Trade liberalisation has highlighted the imperative of high productivity to sustain high wages in developed countries. Technological change, especially associated with the computer revolution and the information economy, has increased the demand for knowledge workers with the ability to do a wide range of ever-changing tasks. Outsourcing and subcontracting are increasingly important, and downsizing has often reduced the size of the workforce without a commensurate reduction in the work[2] – with the remaining employees often required to do the work more intensely on the wide range of remaining tasks. Demographic pressures from an ageing workforce are raising issues of recruitment and retention as well as possible labour shortages.

On the employee's side, the ageing workforce is often seeking more flexible transitions into retirement and the younger workforce is seeking more flexible school-to-work transitions. The two-earner family is now the norm, and not the exception. As such, families increasingly face a "time-crunch" in their endeavours to balance work and family, giving rise to pressures for alternative work time arrangements, non-standard jobs, and workplace well-being programs. The workforce is becoming increasingly diverse in other dimensions, especially with respect to visible minority status, reflecting the changing composition of immigration. In such circumstances, diversity management is becoming increasingly important, as are anti-discrimination and human rights practices.

Given the increased mobility of financial and physical capital, governments are under increased pressure to foster industrial peace and co-operation at the workplace and to reduce costly regulations and initiatives that can deter business investment and the job creation associated with that investment. As well, the prominent emphasis in Canada and throughout the OECD has been on human capital developments as the key to growth, performance and innovation.

Given all of the pressures for workplaces to change, and the responses of employers in particular to those pressures, what impact have their resulting actions had on organisational and employee performance?

## Methodological Issues in Measuring Impacts

Prior to discussing the evidence on the impact of workplace practices on organisational productivity, a brief discussion is provided of the methodological issues that make it extremely difficult (although not insurmountable) to establish the connection between a workplace practice and organisational productivity, let alone to measure that impact. Highlighting these issues is important so that researchers, policymakers and employers can design cost-effective ways to monitor and evaluate interventions to meet both operating needs and research needs.

### *Defining Workplace Practice and Productivity*

First and foremost is the problem of delineating the workplace practice and defining productivity. The difficulty of delineating the workplace practice is compounded by the fact that changes in workplace practices are often introduced in bundles. In fact, integrating them into bundles is generally regarded as a key ingredient of success. Similarly, integrating workplace and human resource practices into the business strategy of the organisation is also often regarded as a key ingredient of success. This means it is extremely difficult to determine the separate impact of a particular workplace practice from that of other practices and from the impact of the business strategy itself.

For example, an organisation may adapt a business strategy that emphasises high quality niche production, and it may support that business strategy with a cluster of human resource practices (e.g., employee involvement, team production, team compensation, job rotation, multi-tasking and multi-skilled training) to enhance employee commitment to quality and the organisation. In such circumstances, it would be extremely difficult to disentangle the separate and independent impact of, say, employee involvement, and to disentangle its effect from that of the business strategy itself. The data sets are seldom rich enough to have separate measures of each workplace practice, as well as measures of different combinations of those practices to test whether there are both independent and interactive effects, and to interact this with measures of the business strategy of the organisation to see if the effectiveness of the HR strategy depends upon integration with the business strategy.

It is also extremely difficult to determine the performance outcome – that is, the dependent variable. Direct measures of productivity (e.g., value added per worker) are not common at the workplace level. Even if they were, a productivity increase could be an undesirable outcome as well as a desirable outcome. If, for example, a new compensation policy was ineffective and raised labour costs, the firm may substitute away from the more costly labour and use more capital or other inputs. The remaining labour would be more productive (i.e., have higher value added per worker) because it works with more capital or other inputs. In this case, the increased labour productivity could be attributed to the new compensation policy, even though it was an ineffective policy that induced an inefficient substitution of capital for labour.

The various studies that evaluate the effectiveness of different workplace practices use a wide range of performance outcome measures. As illustrated subsequently, they can include *subjective assessments* of the program's success, based on responses from employees and/or employers. *Job satisfaction* measures have also been used, with the expectation that a satisfied

employee is a productive employee. More objective performance measures include *absenteeism and turnover* pertaining to the labour input, or measures like *output or quality rejects* pertaining to the output measure. Occasionally the studies have used measures of the "bottom line" – the *stock market performance* of the firm – albeit this broad measure would not likely capture the effect of the introduction of a small number of new workplace practices.

While it is easy to be critical of each and every possible performance measure that is used, it is more difficult to come up with feasible alternatives. Besides, a wide range of measures is likely desirable, to see if a consistent pattern prevails across different measures – in effect, a robustness test. As illustrated in the subsequent summary of the different evaluation studies, it is generally the case that the different performance measures paint a similar picture.

### *Link between Employee Behaviour and Organisational Performance*

As indicated, many of the evaluation studies use outcome measures such as job satisfaction, absenteeism or turnover, with the presumption that improvements in these measures lead to improvements in productivity or organisational performance. This is reasonable and is buttressed by studies that report on the costs of absenteeism and turnover. Moreover, it is buttressed by the recent literature that indicates a positive relationship between job satisfaction and performance, albeit there is certainly not a consensus on the "happy-productive worker" thesis.[3] Furthermore, even if the happy worker is simply a happy worker and not a more productive worker, this can still be a benefit to organisations if, for example, they are able to pay lower wages to attract and retain employees given the favourable workplace practices that make them more satisfied (Drago et al., 2001).

It is the case, however, that the link between these intermediate measures and organisational performance can be very weak. Employees who are absent less often may be physically present, but not productively present. Not all turnover is bad turnover, as is evident by the employee churning that goes on in the dot.coms and that allegedly is a source of creative synergies and knowledge transmission. While there are these weak links between the different outcome measures and the measures of productivity, organisational performance and competitiveness, the fact remains that they are readily observed measures that very likely are linked to productivity and performance.

### *Dealing with the Complexity of Interrelated Factors*

Any analysis of the relationship between workplace practices and performance will have to deal with the problem of trying to control for the myriad of other factors that can affect performance. The problem arises when these other factors that affect performance are correlated with the workplace practices, in which case the workplace practices may be "picking up" the effect of these other factors.

This is especially problematic because changes in workplace practices are very likely to occur to accommodate other productivity related changes that are being introduced at the same time. For example, the introduction of new equipment may be the time to change the workplace

practices to accommodate the new equipment. The shift to a Greenfield site, even if many of the same employees are involved, may be the time to "modernise" certain workplace practices. A new executive may bring new workplace practices. In these circumstances, is any change in performance due to the changed workplace practice or to the other changes such as the new equipment, the shift to a Greenfield site or the new executive?

The problem is particularly acute given the rapid changes that are occurring in the workplace and business operations as attested by the phrases technological change, managing change and the new world of work. Change is the essence of the new world of work, and this means it will be difficult to isolate the independent impact of a single set of factors such as workplace practices.

### *Reverse Causality*

The link between workplace practices and productivity and performance conventionally is thought of as a causal link in the direction of workplace practices affecting productivity. This can obviously occur, and there are good theoretical reasons for that line of causation. However, causation can also work in the other direction, from productivity and performance to workplace practices.

In the "happy-productive employee" thesis, for example, the causality may also work in the direction of a productive, thriving organisational environment creating job satisfaction – most of us would feel more satisfied in an environment where things were going well. Productive, thriving organisations also may be able to afford workplace practices such as employee well-being programs, or bonuses, or training or flexible work time arrangements. In such circumstances, the workplace practice may be a by-product of the prosperity of a productive organisation, rather than a practice that is introduced to enhance productivity. If so, conventional estimates of the impact of the workplace practices (independent variable) on productivity (dependent variable) may be picking up at least some of this reverse causality. The two can also feed on each other. That is, a new workplace practice can enhance productivity, which in turn enables the organisation to afford other new workplace practices.

### *Bias from Selection into the Program*

People who enter a workplace program, such as a training program, may be more motivated or they may be selected by management for such training on the basis of their being a potential rising star. Workers with higher levels of formal education may be more likely to seek out, or be offered, training opportunities. Such individuals are also likely to have other characteristics such as connections, social skills and the ability to market themselves. These characteristics may contribute to their success, with the training intervention being credited with the impact of these other attributes. Employees who agree to a piece-rate scheme may be those who can easily unlock their discretionary effort to be more productive. People who engage in telecommuting may be those who are self-motivated and internally disciplined. Those who enter an employee assistance program to deal with problems may be halfway there in dealing with the problem since they recognise it and are doing something about it. Organisations that introduce a diversity

management program may be progressive employers in many other dimensions that affect performance.

In these situations, those who receive the "treatment" or workplace practice may be a select group in terms of unobserved characteristics (e.g., motivation) that can influence productivity and performance. They may sort themselves into those programs, or be selected into them, on the basis of unobserved characteristics that can influence performance outcomes. Since, by definition, these unobserved factors are not observed by the researcher, their effect cannot be controlled for by conventional statistical procedures, and yet they may have a potentially important impact on outcomes.

There are statistical procedures for dealing with possible selection bias, but they are imperfect and usually involve very onerous data requirements. Randomly assigning people to the treatment group (e.g., the workplace practice) and the non-treatment group (e.g., not experiencing the workplace practice) would yield unbiased estimates of the treatment effect (e.g., of the workplace practice). But as a practical matter, organisations would seldom utilise such a procedure in their work environment for the purpose of collecting data to do program evaluation.

Panel or longitudinal data have also been used whereby the same individuals are observed over different time periods. This facilitates controlling for the conventionally unobserved characteristics (e.g., motivation) that may influence the decision to enter the treatment group (e.g., undertake training) because such unobserved characteristics are controlled for by being "fixed effects" within each individual. The identification of the treatment effect occurs through changes in the treatment across the same individuals over time (e.g., as individuals move in and out of training). As a practical matter such longitudinal data are not common, especially because the identification of the treatment effect often requires "deep" (i.e., many) panels over time.

Natural experiments can provide independent variation in the treatment (e.g., workplace practices) so that there is not self-selection into the treatment group. But it is difficult to find natural experiments at the workplace (or anywhere for that matter) since they require that people be assigned to the treatment or non-treatment group on the basis of some independent "act of nature." This could occur, for example, through an unintended loophole in a law or the accidental introduction of a workplace practice – but such procedures obviously are not common.

Lab experiments are commonly used in organisational psychology whereby individuals are randomly assigned to different treatment groups (e.g., work teams of different sizes) or to a treatment and control group, with different outcomes recorded (e.g., effort in solving a problem). Since these typically involve small sample sizes (and hence imprecise estimates) in each experiment, meta-analysis is often employed where the estimates of the treatment effects are pooled across a range of studies. Such studies, however, suffer from the uncertainty associated with the extent to which their results can be generalised to the "real world" work environment.

### *Bias from the Research and Publication Process*

Biases may also occur in the reporting or research results in that there is a tendency to focus on "winners." A set of workplace practices that led to the bankruptcy of an organisation is not

likely to get reported if for no other reason that the organisation is no longer in existence. Furthermore, the CEO who instituted such practices is not likely to want to appear on the cover of a trade journal explaining why the practice failed. Even though we can learn as much from failures as from successes, failures are not likely to be newsworthy and capture the public attention. Such biases are obviously most likely to occur in case studies, especially those reported in trade journals.

There may be a publication bias to the extent that publishers and reviewers may be less interested in insignificant results even though that can be as important a finding as one that is significant. Researchers themselves may be prone to continue modifying their analysis (or even abandon it) if an insignificant or negative effect is found. Researchers themselves may "self-select" to analyse workplace practices that they favour, and this could influence outcomes of their research.

### *Biases from Reverting to Normal*

Biases in estimating the impact of a workplace practice may occur if the workplace practice was introduced at a time when the organisation was experiencing temporary negative performance and over time reverts to its longer run normal performance. In such circumstances, the workplace practice could be given credit for the positive change that was going to occur in any case, as the organisation reverted to its normal performance.

The workplace practice may have been introduced as a policy to deal with the negative organisational performance (not knowing that it was temporary and therefore the organisation would be reverting to its mean performance). The often heard statement that "it takes a crises" to get the parties to act on new workplace practices means precisely that the practice is likely to be introduced when there is negative performance. It could even be possible that the practice was introduced by a clever human resource manager or CEO who knew that the negative performance was temporary, and that by introducing a new practice he or she would be given credit for a proactive action that restored performance. In all of these circumstances, the new workplace practice would be given credit for the positive performance increase as the firm reverted to its normal performance.

Kling (1995, p. 30), for example, cites situations where businesses that were operating below their expected productivity levels were more likely to adapt new employee training programs, and that such programs were associated with significantly larger increases in productivity. Clearly at least some of the productivity growth attributed to the training program could simply be a result of productivity reverting to its normal, expected productivity level.

### *Hawthorne Effect*

A "Hawthorne effect" can occur if the positive response of participants to the new workplace practice is due simply to *change* and not to the ingredients of the program itself. The recipients of the new workplace practices may be responding to the stimulus of the change itself, or

because they know they are being monitored and evaluated. It may be the change or monitoring or evaluation, rather than the workplace practice itself that is *causing* the performance change.

Such effects are more likely to occur in workplace practices where the initial exuberance or stimulus is likely to wear off fairly quickly. This could be the case, for example, with employee involvement programs, or employee ownership situations.

### *Short-run Versus Long-run Effects*

Evaluating the impact of workplace practices is usually done on the basis of short-run impacts. Long-run impacts are difficult to evaluate in part because of the difficulty of accumulating long-run data on outcomes. Furthermore, after long time periods, other confounding influences come into play, and it is difficult to separate these out from the impact of the workplace practice. If retrospective questions are involved, recall bias is obviously stronger after a prolonged time period after the workplace change.

Nevertheless, long-run impacts can be important especially since it may take time for the workplace practice to embed itself in the culture of the organisation, and for its effect to work its way through the system. This is compounded when the effectiveness of a practice depends upon how it is bundled and interacts with other practices, and such bundling and interaction may take time and even some experimentation.

### *Concluding Observations on Methodological Issues*

These potential evaluation problems have two main implications for researchers, practitioners and policymakers. First, the problems must be recognised so that we are appropriately modest (and qualified) in the conclusions drawn from that literature. Second, attempts should be made to expand beyond the separate solitudes of "monks talking to monks" *within* each discipline, and to encourage cross-fertilisation across disciplines and methodologies. It is with those caveats in mind that the literature on workplace practices will be assessed.

## Workplace Practices

There is a wide range of ways to categorise different workplace practices. Such categorisation is complicated by the fact that the practices are often overlapping and come in bundles. Different "buzzwords" are often used and the buzzwords can change over time. With these caveats in mind, the practices analysed here are ones most commonly analysed and documented in research. They are grouped into the following categories:

- Job design, including job classifications and teams
- Employee involvement
- Compensation
- Work time arrangements
- Training
- Diversity management
- Workplace well-being programs

The format will be to first briefly describe the practice emphasising the features that are likely to impact on productivity and competitiveness within organisations, and hence ultimately on the economy as a whole. Generalisations based on the empirical literature will then be made, referencing select studies for illustrative purposes. The literature review will be illustrative rather than exhaustive in part because most of the studies deal with a variety of workplace practices, and because the literature on any one of these practices is so extensive that a comprehensive review of all the studies is beyond the scope of this analysis. Other studies provide partial reviews of the existence of[4] and effects of[5] what are often labelled as "new high-performance work" (HPW) systems, which tend to involve a bundle of workplace practices including job design, employee involvement, training and performance-based compensation.

### *Job Design*

Job design generally refers to the nature of the job in terms of such features as the range and depth of tasks, the nature of supervision, and the use of teams.

The "traditional" system is based on Tayloristic principles of scientific management where time and motion studies were used to break tasks into their component parts, with a particular individual responsible for a single "assembly-line" type of repetitive task suited to assembly-line procedures. This led to a large number of narrow job classifications, each requiring minimal training, with quality control coming through extensive supervision and separate quality control units at the end of the procedure.

In response to the changing needs for flexibility and adaptability as well as for employee commitment and quality control, employers often instituted "high-performance work" systems with the opposite characteristics to those of the traditional system. The hope was to unlock the discretionary effort that employees could provide if they were motivated and committed to their job. Job design is one feature – albeit a prominent one – of the *bundle* of workplace practices that make up HPW systems. While consultants have often emphasised specific stand-alone workplace

interventions, it is when bundled into a coherent system of practices, especially when also integrated into the overall strategy of the organisation, that such workplace interventions make a coherent HPW system.

A variety of features are associated with the job design aspect of high performance work systems. *Job enlargement* involves expanding the horizontal *breadth* of the job with employees doing a wider array of tasks at a similar level. *Job enrichment* involves expanding the vertical *depth* of the job with employees doing different jobs at different levels. Often this involves more downstream interaction with suppliers and upstream interaction with customers. *Broader-based job classifications* would accommodate this *multi-tasking associated* with the greater width and depth of jobs. The intent is to rid the workplace of the phrase "it's not my job."

*Job rotation* and *multi-skill training* were often introduced to equip the employees to do the wider range of jobs. *Reduced supervision* and *job autonomy* often accompanied the de-layering of the old vertical command structure of organisations, with more responsibility and quality control falling on the shoulders of employees themselves. Workplace *teams* frequently replaced the former assembly line operation, with the teams often given self-managing responsibility for scheduling, production decisions and quality control. *Quality circles* were often formed to elicit information (especially for quality improvements) from those closest to the production decision – workers on the shop floor. Greater emphasis was often placed on *selection* to get the right people, given the interrelated nature of the production process and the greater need for interaction, commitment, co-operative team behaviour and quality control.

Empirical studies of these high-performance workplace practices generally find the following:

- The job design features associated with high-performance work systems generally led to improvements in various outcomes such as job satisfaction and absenteeism, and ultimately to productivity and firm performance. The job design features are often regarded as a prerequisite for the more intensive or transformational changes associated with the bundle of HPW practices.

- The positive effects were more pronounced when the features were *interacted with clusters or bundles of other human resource practices* rather than introduced singly.[6] In fact, negative consequences often accompanied their being introduced in isolation.[7]

- The positive effects were also generally more pronounced when the programs were *integrated to fit with other corporate strategies of the business*[8] such as organisational structure or the production or distribution systems such as those that emphasised total quality management (TQM).

- Combining the workplace practices into clusters and integrating them with other aspects of company policy were easier in Greenfield sites (new start-up operations in new plants with a new workforce, often in suburbs or industrial parks not associated with the history of the "old" industrial locations), highlighting the difficulty of disentangling whether the enhanced performance is attributable to the clusters of integrated policies or to new systems that are free of the "cold hand" of the past and not tied to the legacy of the old past practices.

- In part because of their success as a cluster of integrated policies, it is generally not possible to rank the different components in terms of their relative importance (e.g., whether job enrichment is more important than job enlargement).

- The support of managers, supervisors and the union, if present, appear also to be key ingredients of success.

- There does not appear to be a "cookie cutter" one-size-fits-all set of job design features that is appropriate in all situations. The features often have to be customised to the needs of the particular worksite. In essence, "context matters" and sorting out detailed and specific contextual effects is an important subject matter for future research.

### *Employee Involvement*

As the name implies, employee involvement (EI) programs are characterised by employees being involved in various aspects of the decision making of their organisation, ranging from decisions pertaining to their job to decisions pertaining to specific issues such as training or safety, to strategic decisions of the organisation itself. Various degrees can be involved including individual employee suggestion schemes, team quality circles, joint committees in such areas as health and safety and training, and stronger forms of joint governance including seats on the boards of directors and even employee ownership of the organisation.

The empirical literature on the effect of employee involvement generally finds the following:[9]

- Employee involvement generally had similar positive effects as the job design programs discussed previously. Similarly, they were more successful when combined with *clusters* of other high performance work systems[10] and *integrated* with other business strategies of the organisation, including its production and distribution dimensions as well as an overall corporate philosophy that emphasises the mutual interests of employees and employers. The tendency for employee involvement to yield positive effects, however, was by no means universal, with many studies finding no effect and some finding negative effects.

- The effects were more positive for job satisfaction than for productivity and performance,[11] indirectly suggesting that job satisfaction does not always translate into performance.

- As with the job design features, it is not possible to rank the different employee involvement initiatives in terms of their degree of success.

- If unions are present, the support of the union is important for success.[12]

- In spite of their apparent success, employee involvement programs often tend to be short-lived. Reasons for this are not usually clearly delineated in the literature, albeit conflicting with the views of middle management is often cited as a contributing factor.

- Employee ownership[13] is generally associated with favourable employee attitudes in such areas as job satisfaction, commitment and motivation, although increased stress from peer pressure of other employees was also common. Generally positive effects are also found on productivity and firm performance, although these results are more mixed.

### *Compensation*

Compensation in pay and fringe benefits is regarded as a crucial element of strategic human resource management for various reasons. It serves a wide range of purposes pertaining to such dimensions as recruiting, retention, motivation, commitment, downsizing and matching the right person with the job. It is generally regarded as a key ingredient in supporting other human resource practices. For example, if work teams are to be encouraged then compensation should be geared to encourage co-operative efforts within such teams. If multi-skilling is to be encouraged to facilitate the multi-tasking, job rotation and lifelong learning associated with broader-based job classifications, then more attention should be paid to pay-for-knowledge or the wider range of skills necessary to do the wide range of tasks. If employee commitment to the organisation is to be encouraged to facilitate quality improvements, then organisational commitment to the employee may also be appropriate through compensation practices.

Compensation is also important since labour costs are typically 70 percent of total operational costs (Blinder, 1990, p. 2). As well, there is a wide range of possible compensation policies and they are subject to discretionary control on the part of management – they are a policy instrument that can be strategically changed (Milkovich, 1988, Gerhart, 2000). Unions often mitigate that control when they are present; nevertheless, even in unionised environments the compensation system is subject to bargaining. This is evident, for example, when old "pattern bargains" have often broken down, with increased attention being paid to the particular market forces that are impinging on employers and their "ability to pay."

The link between compensation on the one hand and productivity and performance on the other hand is complicated by the fact that what matters is not only the *level* of compensation, but also features of the overall compensation such as the deferred nature of compensation, the extent to which it is compressed, and the nature of non-wage components such as pensions.

Deferred compensation is pay that is deferred or "backloaded" in that it is paid later in the employee's career with the organisation. Deferred compensation can have positive productivity enhancing effects in various ways. It can deter unwanted turnover because employees have an incentive to remain with the firm to "collect" their deferred wage. This in turn can encourage firms to invest in the training of such employees since there is less risk that they will be "poached" by other firms. Deferred compensation can discourage "shirking" since employees do not want to lose their deferred wage by being dismissed or not promoted in cases where deferred wages are contingent upon promotion. Deferred compensation can foster commitment of the employee and encourage employees to have an interest in the financial solvency of their firm to ensure payment of their deferred wage. Deferred compensation systems can also deter persons who know they are likely to be poor performers from applying since their performance will be revealed over time and hence they may be denied their deferred compensation.

The connection between compensation and productivity is further complicated by the fact that some compensation systems may be more structured like tournaments with payment based on relative rankings and not absolute performances. Such systems may be particularly appealing when it is difficult to observe absolute levels of productivity or performance, but it may be feasible to rank the relative performances. As well, such systems may be appealing if it is desirable to attract persons who are willing to take the risk of entering such contests.

There is growing recognition that non-wage forms of compensation such as occupational pension plans can be an important tool of strategic human resource management, used to affect such factors as turnover and retirement.[14] Final earnings pension plans, for example, can give rise to substantial pension benefit accruals that are, in effect, a form of deferred compensation. Subsidies to early retirement can facilitate voluntary downsizing, as can penalties to delayed retirement. Rewards for reduced absenteeism can also be used to alter absenteeism.

In circumstances of team production and when increased attention is being paid to the ability to pay of individual organisations or business units, group compensation schemes are also more prominent. Pay is tied to the performance of the group or team and sometimes to the overall performance of the company (the latter often termed gainsharing). Such plans usually have base pay plus a bonus where the bonus is linked to observable measures such as costs, productivity or profits. Such plans can encourage group or team behaviour as well as employee interest in the financial viability of the organisation. They are often also accompanied by employee involvement initiatives (so that employees can have a forum for influencing organisational performance) as well as information sharing (so that appropriate bonuses can be verified). They can foster resentment, however, if employees feel that their pay is based on elements over which they have little control, or if they feel that others in their group do not contribute and yet they share in the group benefits.

This highlights that what may work in one organisation or organisational structure may not necessarily work in other environments. Salary inequality and tournament prizes may work in situations where it is important to encourage individual efforts, ranking is feasible and attracting risk takers is desirable. More compressed salary structures may work best in teams, when co-operation is desirable and when individuals are unlikely to resent giving large individual contributions that are shared among the group.

Given these caveats about the problems of linking pay to performance, the following generalisations emerge from the compensation literature:[15]

- Compensation strategies that link individual pay to individual performance generally have a substantial positive effect on performance.[16]

- Pay strategies that link pay to the performance of the workgroup or organisation (e.g., profit sharing and gainsharing) also generally have substantial positive effects on performance.[17]

- There is not agreement on whether such performance-based compensation practices are universal best practices having positive effects on their own,[18] or whether their positive

effects are contingent upon their clustering or interacting with other high-performance work practices,[19] or being integrated or fitting with the overall organisational business strategy.[20,21]

- Pay for knowledge or skill-based pay (i.e., pay for skills the employee possesses rather than for the specific job done by the employee) generally has positive effects on performance.[22] However, most of these studies do not consider the added cost of pay for knowledge that arises because of the additional training needs or the fact that employees are often paid according for the requirements of the higher skilled job categories in which they work.[23]

- Pay satisfaction, often emanating from the perception of being paid "fairly" generally leads to positive effects on objective measures of employee performance.[24]

### *Alternative Work Time Arrangements*

A wide range of alternative work time arrangements including work sharing, job sharing,[25] compressed workweeks,[26] flexitime,[27] shift work, split shifts, overtime and unpaid leaves, have become increasingly common because they meet the needs of both employers and employees. Employers often prefer them because they meet their needs for flexibility and adaptability – the just-in-time workforce to meet their needs for just-in-time delivery. They may prefer work sharing and job sharing because it enables them to continue to have access to their full workforce. They may accept overtime in spite of its costs because it saves on the payroll taxes, recruiting and training costs, and the possible termination costs associated with hiring new employees. They may regard early retirement as a way of downsizing that also opens new opportunities for junior employees. With the growing service sector, flexible work time is also often preferred by employers because it enables them to meet the needs of their customers who often want service in non-conventional hours, especially given the time constraints of the growing number of two-earner families.

Employees too are often willing to accept these arrangements especially given the needs of two-earner families to balance work and family. Flexitime can avoid rush hour congestion, unpaid leave can provide family time, and voluntary early retirement can be a viable alternative to layoffs for an ageing workforce. While employees often prefer these arrangements for various reasons, they also often "pay the price" for them in terms of poorer wages, benefits and job security (Krahn and Lowe, 1998, Chapter 3; Lowe and Schellenberg, 2001).

The empirical literature on the effect of alternative work time arrangements generally finds the following:

- Compressed workweeks generally had positive effects on *attitudes*[28] in favour of compressed workweeks[29] and they were preferred by employees and even management, but the more limited evidence in their *actual* effects on such factors as absenteeism and productivity is mixed.[30] They are generally found to lead to increased stress and fatigue.[31]

- Flexitime generally had large positive effects on *attitudes* in favour of flexitime[32] and usually had positive (but often weak) effects on *productivity* and even more so on reducing *absenteeism*[33] and stress.[34]

- Shift work is generally found to have negative effects on a wide range of employee behaviours such as sleep, eating and increased absenteeism[35] although a few studies find no negative effect especially for persons who are already in good health.[36]

- Teleworking or telecommuting is generally regarded favourably by employees as a way to balance work and family time, and is associated with cost reductions and enhanced productivity[37] (although the latter is often attributed to the fact that more productive employees chose teleworking).

- Limited empirical evidence exists suggesting that overtime[38] is associated with more accidents, but the independent effect of overtime is virtually impossible to separate out since overtime is also associated with a general increase in the pace of regular work and a reduction in supervision (both of which can also increase accidents). As well, overtime is done by experienced workers who are less accident prone compared to new workers who otherwise may be hired, and who may be even more accident prone because of their lack of experience. Overtime is also associated with an increase in subsequent absenteeism, but only if the overtime is involuntary.[39]

- Work sharing and job sharing (although generally not widespread) are generally found[40] to be favourably regarded by employers and especially employees, with the perceived benefits (mainly in terms of employee morale and retaining employees) generally regarded as exceeding the costs (mainly in terms of additional administrative and scheduling costs, and fringe benefits).

- Little empirical evidence exists on the impact of company leave policies on productivity, costs and competitiveness. The studies that exist simply provide subjective views usually only of the perceived benefits (e.g., employee morale, training, reduced absenteeism) without any evidence of the costs (e.g., temporarily replacing the employee). Favourable perceived benefits are generally found.[41]

### *Training*

In the link between workplace practices on the one hand and productivity and competitiveness on the other hand, training is invariably regarded as a key ingredient. This is especially the case since training facilitates adjustments on both the "downside" (e.g., layoffs, and skill obsolescence) and on the "upside" (e.g., skill shortages, relocation needs). In fact, training can facilitate adjustment in the direction of market forces from declining sectors and regions to expanding ones. Training and retraining are regarded as key ingredients to facilitate the "lifelong" learning that is increasingly regarded as crucial for knowledge workers to deal with the rapid and constant changes brought on by the new technology. Multi-skill training is also regarded as a key ingredient of the multi-tasking that is associated with broader job classifications, multi-tasking and job rotation.

While there is general recognition of the importance of training, there are potential market failures that reduce the incentives for the private parties to pay for or engage in training. Firms

have to worry about the "poaching problem" whereby if they pay for or provide training that is generally usable in other firms, they may loose their trained workers to other firms that do not train but simply "bid away" the trained workers. To avoid this, the firms that provided the training would have to match those offers, in which case they would have "double paid" – paid for the training, and paid for keeping their trained workers.

In such circumstances, employees should have the incentive to pay for such generally usable training since they reap the benefits in the form of higher wages. They may not be able to afford to do so, however, either by directly paying for the training or by accepting a lower wage in return for the training. Furthermore, they may not be able to borrow because they cannot use their human capital (i.e., the additional training) as collateral for a loan (unlike a conventional loan for say a house or a car, where they can use the asset as collateral). As a result, there is a distinct possibility for there to be "underinvestment" in training even if it can profitably enhance productivity and competitiveness. The issue is exacerbated in a country like Canada that has often relied on immigration as a source of skilled labour, possibly at the expense of developing an indigenous training system. Stigmas against "vocational" education further exacerbate the problem.

In spite of the potential importance of training, few empirical studies have examined the impact of training on the productivity and competitiveness of firms. Most studies have looked at the impact of training on the wages and employability of individual workers. Some case studies have also examined the effect of particular company training programs (usually executive or supervisory training) on supervisory ratings or on the trainee's perception of the effectiveness of the training, without any assessments of whether the generally positive perceived benefits outweigh the cost, including the time cost.

The empirical literature[42] on the effect of private sector workplace training generally finds the following:

- The dearth of rigorous firm-level evaluation of the effect of training on productivity and competitiveness has been recognised and commented upon by many evaluators.

- The case studies of particular training programs (usually of executives or supervisors) tend to find that the parties perceive the training to be beneficial, but the analysis does not indicate if the benefits exceed the costs of training.

- Training generally enhances the earnings and employability of recipients, but again it is not clear that this offsets the costs.

- The earnings gains from training usually come from increased employment (hours or weeks worked) rather than from higher wages.

- Better training outcomes tend to be associated with the following: more private sector involvement; on-the-job as opposed to institutional training; tight, buoyant labour markets.

- The economic return to training appears lowest for disadvantaged workers, highlighting that there likely is a trade-off between equity and efficiency in this area.

- Studies that have evaluated the effect of training on firm performance generally find positive effects in terms of productivity, but again this is not related to the costs.

- The profitability of training is often simply inferred from the fact that "if it occurs it must be profitable."

### *Diversity Management*

As indicated previously, the workforce is becoming increasingly diverse with respect to various dimensions such as gender and ethnicity. The trend is expected to continue, with most of the new growth in employment coming from women and visible minorities. In such circumstances, diversity management is often regarded not so much as a "regrettable necessity" but rather as a "good business practice" (Jain and Verma, 1996). This is so because if the supplier and customer base is also increasingly diverse, then it makes sense to have internal employees who can effectively interact with that diverse supplier and customer base. In a world of globalisation this is especially the case since suppliers, customers and joint ventures and alliances are increasingly situated in other countries. As well, discriminatory action by employers by definition means that the best persons are not being hired or promoted, and that a pool of talent (usually of lower pay) effectively is not being utilised. Once they are hired, it also makes good business sense to facilitate their integration into the workforce, especially given the greater importance of workplace teams and employee involvement. Forcing unnecessary conformity on persons of diverse cultural and ethnic backgrounds can also be counterproductive.

Arguments are also often made that legislative initiatives in these areas (e.g., equal pay, equal employment opportunity and anti-discrimination laws) are not as costly to employers as they first appear because they compel employers to rationalise their internal practices with respect to recruiting, hiring, pay and promotions in ways that they should have done in the first place. While there may be some truth to these assertions, it is likely more realistic that these rationalisations may offset some of the costs.

The empirical literature in this area tends to focus on the impact of equal pay, equal employment opportunity and other anti-discrimination on the wages and employment opportunity of the target groups. Little systematic evidence exists on the impact that voluntary workplace practices related to diversity management have on productivity and competitiveness, in part because of the difficulties of precisely identifying a diversity management "intervention." With these limitations in mind, the following generalisations emerge from the limited empirical literature in this area that deals with the ultimate effect on productivity, firm performance and competitiveness:

- Organisations that have engaged in discriminatory practices have incurred excessive costs by not hiring the most productive or lowest cost employees who are qualified for the job.[43]

- The administrative costs of responding to equal employment opportunity legislative initiatives are generally quite small, especially when contrasted to the possible costs of litigation through the courts.[44]

- The administrative costs of pay equity initiatives appear more substantial in part because of the cost of job evaluation procedures.[45]

- Following non-discriminatory employment practices and expanding the hiring and promotion opportunities of minority groups is associated with other favourable outcomes such as increased productivity, reduced turnover and rationalised internal human resource policies.[46]

- Diversity in work teams tends to lead to more creative and better solutions,[47] especially when combined with diversity training and union support.

### *Workplace Well-being Programs*

Increased attention is being placed on workplace well-being or employee assistance programs for a variety of reasons. With the growth of two-earner families, "family friendly" policies become more important to assist in work-family or more generally work-life balance.[48] For knowledge workers in the information economy, physical fitness is not acquired on the job, as it often was with blue-collar work. With the increased stress that often comes with the high performance workplace[49] as well as downsizing and balancing work and family time, stress and alcohol and substance abuse become more paramount. With increased pressure from wrongful dismissal claims and hence the difficulty of simply "getting rid of" problem employees, more attention is placed on dealing with these issues internally through employee assistance programs. Societal norms have also changed such that these issues are now more out in the open – they are issues to be dealt with and not simply hidden. Employers who want a high commitment workforce may also want to try to show their commitment to their employees, recognising that commitment is a two-way proposition. In many cases, such programs may help in recruiting and retention as well as reduced absenteeism. Employers are also increasingly aware of the rising costs associated with such factors as absenteeism, supplementary health benefits such as drug plans and long-term disability (Duxbury and Higgins, 2001).

In such circumstances, employers have often introduced workplace well-being programs in such areas as child care, counselling, alcohol and substance abuse, smoking policies, stress management and fitness programs. Many of these programs focus on employees' health related attitudes and behaviour, rather than addressing the underlying causes that may exist in the work environment and that contribute to the behaviour that leads to the need for the wellness program.

Evaluating the effectiveness of such programs on productivity and competitiveness is extremely difficult for a variety of reasons. The types of employers who introduce such programs are likely to be the type of "progressive" employer who utilises a wide range of other practices that can affect productivity and competitiveness. Sorting out cause and effect also is extremely difficult because employers who are already very profitable may be more likely to be able to afford such programs. One of the benefits of these programs is that employers may be able to pay lower wages in return for such programs if they are considered desirable by employees, yet this is difficult to calculate and incorporate into the evaluation. As well, in the area of employee assistance programs, any biases created by the selection of employees into the programs can be a particularly important factor to consider in the evaluation exercise. In part because of these

difficulties of formal evaluation, many of the assessments are simply qualitative and anecdotal, usually simply extolling the virtues of such programs.

In spite of the difficulties of evaluation, the following generalisations emerge from the literature on the impact of workplace well-being programs on productivity and competitiveness:

- "Family friendly policies" in general[50] (e.g., parental leave, flexible scheduling, child care or child care referral services) tend to have positive effects on such factors as employee job satisfaction, absenteeism and turnover.

- Supervisory support[51] for work-family programs is crucial for their successful implementation so that employees are not reluctant to utilise them if present.

- Employer assistance in the provision of child care[52] is generally found to yield benefits in such areas as recruiting, retention, absenteeism, tardiness, stress, moral, scheduling, public image, productivity and earlier return to work after maternity leave. Most studies focus only on benefits without relating them to costs, although some find that benefits exceed costs or that it is impossible to determine the net effect. The main concern of employers tends to be with respect to liability costs, concerns over the quality of the child care, and the inequities for employees who do not have children who need formal child care.

- Employee health and fitness programs[53] (e.g., health education and promotion, disease management, health risk screening, smoke cessation, and in-house fitness programs) are generally found to yield positive benefits.

- Stress management programs generally yielded positive perceived benefits to the recipients[54] and usually positive organisational outcomes such as reduced absenteeism and turnover,[55] but the results are not uniformly positive.[56]

- Smoking bans[57] at the workplace generally lead to cost saving through reductions in absenteeism, maintenance and insurance costs, and time lost to "smoke breaks," but such studies have not examined other costs such as quitting of disgruntled smokers or the costs of maintaining separate smoking areas, or the costs of people leaving the premises to smoke.

- Alcohol and substance abuse programs[58] tend to yield substantial benefits in such areas as reduced absenteeism, accidents and grievances, in part because of the problems that are otherwise associated with these programs. Since alcohol and substance abuse are often the symptoms of other problems, however, it is difficult to separate out the independent effect of these programs. As well, employees who voluntarily enter these programs may already have been on the road to dealing with the problem even without the program.

- More general employee assistance and counselling programs[59] tend to yield benefits as found in the other programs (e.g., reduced stress, absenteeism, lateness and turnover and increased job satisfaction and morale) but with the same issues with respect to whether the benefits exceed costs to employers.

- In general, workplace well-being programs appear to yield substantial benefits, but there is greater uncertainty as to the "business case" for such programs in terms of benefits exceeding the costs to employers.[60] They appear to be beneficial to employees who utilise the programs and perhaps to society in general, but the link to productivity and competitiveness (if such a link is necessary) is tenuous. The evaluation of these programs is also likely to be fraught with the most severe evaluation problems.

## Barriers to Diffusion

In spite of all of the qualifications in the evaluation literature, it does seem to paint a picture of the new workplace practices being successful. In fact, it is easy to be left with the impression: "We know what works – the puzzle is why they are not more commonly adopted and diffused throughout other workplaces." This concluding section deals with the barriers to the diffusion of what appear to be successful workplace practices.[61]

### *We Do Not Know What Works*

In spite of the statement above, the fact is that we may not know what works. Importantly, we may not know the processes and mechanisms that link interventions to certain outcomes, and what combinations of workplace contexts and employee characteristics are influential in this regard. Even if we know that some interventions can benefit workers and firms, we may not know how, when and where they are most successful.

The biases and qualifications discussed in the section on methodology suggest that we should be extremely modest about conclusions in this area. If we as researchers should be extremely cautious, perhaps employers are behaving quite rationally about being extremely cautious, especially given the cost implications of adopting practices that could be failures. They are in the business of making strategic decisions, and it may well be presumptuous of us to suggest that we know what works but they are uninformed in that area.

This is especially the case since many of the evaluation studies indicate that the workplace practices yield *benefits*. Few of them indicate that the economic benefits exceed the economic costs, especially to the organisation, let alone whether the broader social benefits exceed the social costs. Yet it is the benefits relative to the costs that matter for the organisation and for society. It may well be that the organisation perceives the benefits, but does not believe that they exceed the costs, and hence does not adopt the practice.

### *We Do Not Know if It Works in a Different Environment*

Even if the information is overwhelming that most of these practices work (even to the point of the economic benefits exceeding the costs to the organisation), it may be that they work in the environment where they exist, but this does not mean they will work in other environments. In fact, it is to be expected that businesses are likely to adopt them only in environments where they would be expected to work. After all, they are in the business of making such business decisions.

The possibility that they are likely to work mainly in the environments where they are already adopted (and that success may not necessarily be transplanted into other environments) is enhanced by the evidence that many seem to work best when they are adopted in interactive bundles and integrated into the business strategy of the organisation. Not all organisations may have the same capacity for such bundling, and not all business strategies are likely to be capable of such integration.

### *Managerial Resistance*

The previous discussion implied that organisations might be correct in not adopting workplace practices just because they work elsewhere. They have strong incentives to be correct, and may not be in business long if they bypass good business investments including investments in human resource practices.

While competitive market forces should move them in that direction, it is possible that there can be managerial resistance to many of these changes, and it may take considerable time for competitive market pressures to overcome that managerial resistance. Managers may not be well informed and know their full range of options or the costs and benefits of a particular intervention. They may also not fully value the strategic importance and incorporate them into their goals. Managers may be especially reluctant to adopt workplace practices that involve a loss of managerial prerogatives and control. This can definitely be the case with programs such as employee involvement, information sharing and reduced supervision. It can even be the case with programs like flexitime when the employee's hours do not overlap with the hours of management, or with telecommuting where there is minimal contact. Even with respect to "Taylorism," Frederic Taylor pointed to front line supervisors as the greatest source of resistance to his "reforms."

Managerial concerns may be especially prominent when the introduction of the practice may be irreversible, or at least difficult to reverse, perhaps because they raise employee expectations – that is, where "the genie cannot be put back in the bottle." This can be the case, for example, with many forms of employee involvement, or alternative work time arrangements, or diversity management or workplace well-being programs. It could be difficult, for example, to cancel a joint committee or a flexitime policy or to close an "in-house" day care centre once they were established.

In the case of these irreversible practices, conservatism in adopting them may be a rational response on the part of management. If a *business* venture does not turn out, it may be easy to reverse that decision. If a *workplace practice* venture does not turn out, it is more difficult to reverse that decision given that the employees may have adjusted their expectations and perhaps even lifestyles according to workplace practices. In such circumstances, conservatism with respect to the adoption of workplace practices may well be a rational policy.

### *Employee Resistance*

Resistance on the part of employees may be more understandable since they are not directly under competitive market pressures to adopt the most efficient workplace practice. Often such practices involve dramatic change in the way they have done their job, and for which they have developed skills, experience and even "job rights" or "job ownership" around their position. Many of the changes are "competency destroying" and involve "unlearning" the traditional ways of doing tasks. They may involve shifts to new departments and locations. "Change fatigue" can occur given that change is stressful and creates uncertainty, new demands and often increased

work loads. Job security may be threatened by the workplace change, which understandably may encourage workers to resist such change even if it were efficient for the organisation.[62]

In such circumstances, guaranteeing a degree of job security may be one of the most effective ways to reduce resistance to such change. It is well known that the core workers in Japanese organisations tend not to resist change, and indeed often embrace it, because they have a degree of employment security through the lifetime employment system.

If the new workplace practices are efficient, then, by definition, they should provide the means to compensate the losers and make them better off. That is, a larger pie can always be divided with a larger piece given to each recipient. The problem is that there is no guarantee that such compensation will occur – that is, that employees will share in the benefits of efficient workplace practices that affect their everyday lives, but where the benefits may go elsewhere.

Having said that, it is also the case that while employees may not be under *direct* competitive market pressures, as are employers, to adopt the most efficient workplace practice, they are certainly under similar *indirect* pressures to adopt them. Their conventional jobs (and certainly the pay associated with those jobs) may simply not be there for long if they do not adjust. Whether this indirect pressure induces them to adopt the most efficient workplace practice likely depends upon the strength of that indirect pressure. If outsourcing or relocation to a Greenfield site or to another country is a credible threat on the part of the organisation, then employees will likely adjust. They will also likely adjust if they share in the benefits of the efficient new practices.

### *Union Resistance*

The resistance on the part of employees can be particularly prominent if unions represent the employees, in part because unions provide the infrastructure for collective action. In a unionised environment, for example, almost all of the issues associated with the workplace practices can be dealt with in the collective agreement. Understandably, this can inhibit the diffusion of the workplace practices that otherwise may occur in an unfettered fashion if management had unilateral control.

Unions and their leadership understandably may feel threatened by workplace practices that can undermine the authority and perhaps even very existence of the union as an institution. They may feel that co-operation with these programs is essentially co-option into essentially a managerial philosophy. This is especially the case with employee involvement programs to the extent that they involve direct dealings between management and the workers.[63] Job enlargement and job enrichment may simply be regarded as employees taking on more tasks (i.e., multi-tasking) for the same pay. Contingent pay systems move against the union principle of "taking labour out of the labour market" and subjecting labour to the vicissitudes of the market over which they have little or no control. Compressed workweeks go against the historical battle of unions for the eight-hour day. Shift work and split shifts are often resisted because of the disruption they can impose on workers' personal time. In these and other circumstances, unions may inhibit the unfettered diffusion of workplace practices.

Unions can also rationally engage in an "end game" strategy in situations where the industry is in decline and hence is not attracting new firms that could otherwise put pressure on existing firms to innovate and compete with the potential new entrants. In such a situation, the rational strategy for the union may well be to not engage in activities that can be costly to the existing membership (e.g., concession bargaining, some new workplace practices) unless there was some hope that this would sufficiently rejuvenate the industry or the position of their organisation within a declining industry. In these circumstances, the slow diffusion of innovative workplace practices is a result of the absence of effective competitive pressures to adopt such practices.

In other instances, however, unions can facilitate certain workplace practices. This is the case, for example, with joint committees, employee ownership, pay and employment equity, and workplace well-being programs. Especially in craft trades where unions run the hiring hall (e.g., in parts of construction), they may also facilitate training by negotiating for a training fund and by jointly running training programs.

### *Legislative Barriers*

Legislation can also (usually unintentionally) create barriers to the adoption and diffusion of new workplace practices. This is especially the case since the current legislative and regulatory framework was designed for the "standard" job and career, established in the "old world of work" often characterised by a male-dominated, blue-collar workforce in large, fixed, manufacturing work sites, protected from competition by tariffs and the lack of global alternatives. Such laws can inhibit, for example, compressed workweeks if they violate daily hours of work limitations (albeit exemptions can usually be obtained). Payroll taxes can inhibit worksharing to the extent that ceilings exist on such taxes so that an incentive is created to work the existing workforce long hours (since no further payroll taxes are incurred if they are at the ceiling) rather than to hire new workers. Unemployment insurance provides income support in the event of layoffs, but it does not provide income support from reductions in contingent compensation in the event of pay reductions (except for the small worksharing component of employment insurance programs).

To the extent that there is limited scope for policy interventions at the workplace, and likely to be opportunities for this in the near future, employers will have to become more active partners with other stakeholders to address the "public" aspects of workplace change.

### *Short-term Focus*

Managers have often been accused of having a short-term focus on the immediate "bottom line." Their time horizon may be the next quarterly statement. The diffusion of workplace practices may be inhibited by the fact that their costs tend to be short-run, immediate and obvious, while the benefits may be longer run and diffuse. Yet new workplace practices may need time to grow and be nurtured and inculcated into the structure and business philosophy of the organisation. This is especially the case if the right clusters or bundles have to be found, and if the practices have to be integrated with the business strategy of the organisation.

While such myopia on the part of management can inhibit the adoption and diffusion of workplace practices, it is difficult to see why such myopia should prevail and survive in a competitive environment. It is difficult to understand why management should not be able to determine its appropriate time horizon for investment purposes, including investments in new workplace practices. Certainly, organisations hope to be around for a long time, and the market should be able to see through and appropriately discount any myopic decisions on the part of management. In essence, if employers are bypassing profitable opportunities to adopt certain workplace practices, this should show up in the market valuation of firms.

In a non-competitive environment, as in the public and not-for-profit sectors, there would not be competitive pressures to adopt and diffuse otherwise profitable workplace practices. In these sectors, which are crucial for the infrastructure and the overall vitality of the economy and society, the adoption and diffusion of "best practices" will depend upon political and social pressures. Such pressures may also be short-run, geared, for example, to the next election.

### *Workplace Practices as a Source of Competitive Advantage*

In the global economy, where conventional sources of competitive advantage can be easily replicated and where prices of capital and goods are often fixed on world markets, the strategic use of human resources becomes an important source of competitive advantage. This is especially the case for high-wage countries that cannot hope to compete with low-wage countries on the basis of reducing their labour costs to those of the low-wage countries.

In such situations, it may be completely rational for organisations that have developed cost-effective workplace practices to disguise, or at least not advertise, the success of those practices, and to keep them as confidential. They could well be regarded as "jealously guarded trade secrets" to keep from competitors and certainly not to share with competitors. Of course, this is harder to do with workplace practices since they tend to be observable to the outside, but there is certainly no incentive to make them more observable or easier to replicate. In essence, the successful innovators have a built-in incentive *not* to have their success stories diffused throughout the industry. They could even have a perverse incentive to have their failures diffused! In such circumstances the lack of diffusion of effective workplace practices is the normal response of competitive market forces. The barrier to diffusion is the firm's incentive to use its innovative workplace practice as a source of competitive advantage.

This could raise the larger question of whether competitive market forces overall are a barrier to or a boon to innovative activities, including workplace practices. They may be a barrier for the reasons discussed. But they are also a boon in that they provide the incentive for firms to innovate to achieve this source of competitive advantage. This is akin to the issue of whether competitive market forces provide the optimal degree of research and development. Formalising the conditions under which that occurs with respect to workplace practices is an interesting issue, but beyond the scope of this analysis.

### *Barriers to Co-operative Actions*

The previous discussion highlighted that the slow adoption and diffusion of innovative workplace practices may well reflect the rational responses of organisations as well as entrenched interests of management, employees and unions. The implication was that the slow adoption and diffusion need not reflect mistakes except insofar as entrenched interests were barriers to the parties collectively developing a response where they abandoned their own individual protective stance for the joint gains that could make them all better off. In essence, the individual actors may have been trapped in a "prisoner's dilemma" where they each acted in their own self-interest when co-operative action would have provided a "win-win" potential. This is, of course, the rationale for co-operative action in this area.

There are, however, significant barriers to co-operative collective action in this area. This is so especially given the history of adversarial labour relations that often sets up a self-fulfilling system of "state dependence" where mistrust breeds further mistrust. This is fostered by the common belief in industrial relations that conflict is an inherent, natural part of the system. This is understandable, even in the area of workplace practices that could benefit all parties. The different parties will invariably experience different costs and benefits, and hence there will be distributional issues (and hence potential conflict) even if the practices are efficient. A growing pie can still lead to conflict over how it should be divided.

Overall, there is a lack of appropriate forums or policy instruments to bring stakeholders together to assess needs, to work out roles and responsibilities, and plan co-ordinated actions. This is fostered by federal-provincial tensions that have been obstacles to resolving labour market issues. Since employers are the main actors in this area, one role for government is to create and disseminate information, and to convene stakeholders to devise new partnerships. Sector Councils appear to have been a useful step in this direction (Gunderson and Sharp, 1998).

While there can be significant barriers to co-operative collective action that could otherwise facilitate the adoption and diffusion of efficient workplace practices, those barriers are likely to be under more pressure to dissipate when the benefits of the workplace practices and the co-operation to achieve them become more apparent. Presumably that lies behind recent initiatives such as Sector Councils, alternative dispute resolution procedures and labour-management co-operative strategies. Whether these are sufficient to facilitate the diffusion of efficient workplace practices, however, is an open question.

### *Externalities and the Poaching Problem*

The diffusion of workplace practices can be inhibited by the possibility that it is difficult to determine who should pay for such practices. Even if that is determined, it may be difficult to devise mechanisms for such payment.

In the training area, for example, firms may be reluctant to pay for or provide generally usable training that can be used in other environments because of the "poaching problem" – the trained employees may be lured away by other firms. In such circumstances, employees have an incentive to pay for such training since they benefit by it because it commands a higher wage

given their generally usable skills. Employees, however, may not have the means to pay for such training. Furthermore, they are inhibited from borrowing to finance the training (or human capital formation in general) since they cannot use their human capital as collateral for the loan (unlike a loan for a car or a house where they can use the asset as collateral for the loan). The lending institution cannot repossess an individual's human capital, since it is inseparable from the borrower, and they cannot repossess the borrower.

In such circumstances, the inability to finance many human capital investments can be a barrier to their being adopted and diffused throughout the workforce. In the "old world of work" this may not have been much of an issue to the degree that employees tended to remain with an organisation so that employers had an incentive to invest in their employees. However, in the "new world of work" where employees may have less guarantee of stable employment, this issue of who should pay for general human capital becomes more of an issue.

While the illustration here was with respect to training, the same issues apply to any general skill acquisition that can be associated with workplace practices. This could be the case, for example, for employees who have multi-skilling to engage in job enlargement or job enrichment or job rotation, or who can work in teams and contribute to quality circles.

### *Public Goods Nature of Workplace Innovations*

A significant barrier to the development of innovative workplace practices is that such practices have the twin characteristic of a public good: (1) the potential benefits are equally available to all market participants, and (2) the market mechanism does not provide a means to extract payment from those who benefit, to reward those who innovate. In such circumstances, conventional market mechanisms will be providing a less than socially optimal amount of such innovative practices,[64] including workplace practices (Gunderson, 1986, p. 127). Quite simply, the parties who innovate bear the full costs of their innovation (including the cost of failures), but they cannot appropriate the full benefits since competitors can quickly emulate successful innovations and bypass the failures. As such, they are reluctant to innovate by as much as they would if they could appropriate the full benefits of their successful innovations.

This is the rationale, of course, for patents in product markets to encourage innovation in research and development. The patents give the innovator a captive market for a period of time to recoup their research and development costs and hence to encourage innovation. The optimal length of the patent, of course, is a difficult issue to determine in product markets, but few would argue that it should be zero. Yet patents are not feasible in the area of workplace practices – in effect their length *is* zero. In such circumstances, it is understandable that individual organisations may be reluctant to engage in innovative workplace practices.

Obviously, firms that engage in innovative workplace practices can appropriate *some* of the benefits. They may achieve a short-run edge over their competitors until the practices are replicated. They may build a reputation as an innovator and this may help them in recruiting and retention. Firms may also form industry associations or Sector Councils that support the collective development of such practices for the industry. In some cases, the costs may be so low than any benefits would exceed the costs. But it is easy to see why individual organisations may

not appropriate the full benefits and hence why there is insufficient incentive to engage in innovative workplace practices. This applies to the full range of innovative workplace practices outlined previously, including job design, employee involvement, compensation, alternative work time arrangements, training, diversity management and workplace well-being programs.

## Overview, Policy Implications and Needs for Further Research

A wide range of methodological problems in evaluating the impact of workplace and human resource practices on firm-level productivity and competitiveness were identified. These difficulties include:

- Defining and distinguishing different workplace practices (especially when they are combined in bundles and have key interactions), and defining and measuring productivity and competitiveness outcomes at the workplace level;

- Establishing the link between employee attitudes (satisfaction, motivation, commitment) and behaviour (absenteeism, turnover, effort) on the one hand, and organisational performance on the other hand;

- Dealing with the complexity of interrelated factors that can affect firm performance, especially when they are often linked to changing workplace practices;

- Reverse causality may run from firm productivity and performance influencing the establishment of different workplace and human resource practices;

- Bias from various factors including: selection of particular employees into the workplace or human resource program; selection of the evaluation results that get published or expounded in the media; and biases from introducing workplace practices to deal with temporary crisis situations that may revert to normal;

- Hawthorne effects whereby employees respond to any change; and

- Difficulties in evaluating the long-run impacts of the new workplace practices.

These limitations suggest that the generalisations that emerge from the evaluation studies should be regarded with appropriate caution. Subject to that caveat, the following generalisations emerge, many of which have practical implications for employers considering such practices (with more detailed summaries provided in the text when each workplace practice is evaluated):

- Most of the new workplace practices such as the job design features associated with high performance work systems, employee involvement, pay for performance, compressed workweeks and flexitime, work sharing and job sharing, multi-skill training, diversity management, and workplace well-being programs had positive effects on employees (satisfaction, tardiness, absenteeism, commitment, motivation, effort, performance), which in turn positively affected firm performance, productivity and competitiveness.

- Success of the workplace practices was enhanced when they were: (1) combined in *clusters* or bundles of reinforcing practices, (2) integrated to *fit* with the overall corporate strategy of the business, (3) *supported* by managers, supervisors and the union, if present.

- These ingredients of success were generally easier to combine in new Greenfield sites, unencumbered by historical practices.

- In part because of the importance of clustering and integrating to fit with the corporate strategy, it is not feasible to rank the different workplace practices in terms of their individual effect on individual and firm performance -- in essence, context and fit matters.

- In general, but not always, practices that led to more favourable employee attitudes in areas such as satisfaction, morale and commitment, also led to more favourable performance outcomes for the individuals and their firms.

- While favourable outcomes often occurred for employees, unfavourable by-products also often occurred in such forms as stress, and polarisation between "good jobs" and "bad jobs."

In view of these generally favourable outcomes on employee attitudes and performance, and ultimately on firm performance, the question of why such practices are not more readily adopted and diffused becomes paramount. A wide range of barriers to diffusion were outlined, including:

- A substantial degree of uncertainty (in part because of the methodological problems of evaluating workplace practices) over which practices work best and how they work best with respect to their combinations, workplace context and employee characteristics;

- Resistance on the part of the different stakeholders – managers, employees and their unions – especially if they have a vested interest in the former status quo, and are threatened by the change;

- Legislative barriers whereby restrictions in the legislation may inhibit or at least discourage change;

- The short-term focus that often characterises the time horizon of many of the stakeholders;

- The reluctance to share information on workplace practices when they can be a source of competitive advantage;

- Barriers to co-operation reflecting such factors as the legacy of adversarialism, the differential costs and benefits associated with co-operation, and federal-provincial tensions;

- Difficulties of determining the benefits and costs to different stakeholders, especially of human capital investments, and hence of determining who should pay, coupled with difficulties of paying or borrowing on the part of employees; and

- Difficulties of appropriating the benefits of innovative workplace practices when the successful ones may be quickly emulated by others, including competitors.

The previous discussion highlighted a variety of policy implications and areas in need of further research. One message is that it is likely to be more fruitful to *focus* government

intervention onto areas where the incentives for the private parties themselves have broken down. That is, rather than dissipating policy intervention into areas where the private parties themselves have more information and expertise – and hence where public intervention may do little good, and even do harm – it may be more fruitful to focus public intervention on areas where the mechanisms of the market and collective bargaining may break down in providing what could be considered as the socially optimal amount of innovation and diffusion of workplace practices.

The previous discussion highlighted that such a breakdown could occur because employers may not have sufficient incentive to innovate in this area because they bear the full cost of their innovation but cannot appropriate the full return. Government subsidies to organisations to encourage such innovation is not likely feasible, although awards could be made in areas such as diversity management. Co-operative collective mechanisms like Sector Councils could be encouraged to internalise the spillover benefits within an industry. The same applies to labour-management co-operation in general to assist the parties to escape from the prisoner's dilemma of non-cooperative behaviour. Governments can play an important role in bringing stakeholders together to devise research agendas that will have practical relevance, and to disseminate the results of that research, as well as information on what works and what does not work in this important area. Loans for individuals to finance human capital formation could be considered (just as student loans exist) given the inability of individuals to use their human capital as collateral for a loan.

Governments could also do their own experimentation in innovative workplace practices, revealing the information about what works and what does not work in this area. (Unlike private corporations, governments do not have an incentive to hide such information, and in fact have an incentive to make it publicly available). Doing this in Crown corporations could be particularly informative since Crown corporations run the gamut, with some being close to government departments, and others being close to private corporations.

On the research side, it is tempting to simply conclude that more research is needed on the effectiveness of any and all workplace practices. As indicated by the vast literature that already exists (and that is only illustrated here), more mileage is likely to be gained by synthesising that literature and by encouraging multidisciplinary interaction. A smaller number of high quality studies incorporating the best techniques of the different disciplines are likely to be more fruitful than a larger number of lower quality studies in a variety of different disciplines.

As well, on the research side, data that link behavioural outcomes of individual employees to the workplace practices of their organisations is likely to be particularly useful in this area. This will facilitate testing for the key interactions and clusters that are alleged to be so important in this area. The new Workplace Employment Survey is a start in this direction.

More conceptual research is also merited on the barriers to workplace innovation and the diffusion of that innovation, and perhaps getting information from the parties about the importance of those barriers. Reducing such barriers could be a very cost effective way of encouraging those closest to the workplace – the private parties themselves – from developing best practices in this increasingly important area.

## Notes

1 Based on the new Workplace and Employee Survey (WES), Leckie et al. (2001, p. 10) report that close to three-quarters of Canadian businesses report human resource management as an important aspect of their business strategy, although much of that was aimed at a cost reduction strategy. In their benchmarking study, the Treasury Board of Canada Secretariat (2001, p. 5) document that only 15 percent of Canadian businesses regard their HR function as currently more involving strategy as opposed to simply administration.

2 As documented by Lowe and Schellenberg (2001) such actions on the part of employers can jeopardise the positive responses that employees otherwise have to supportive, healthy work environments that have strong employment relationships.

3 Iaffaldano and Muchinsky (1985) and Podsakoff and Williams (1986) and earlier studies cited therein tend to find at most a weak positive relationship between satisfaction and performance, but more recent studies tend to find a stronger positive relationship. In the case of Katzell, Thompson and Guzzo (1992) that strong positive relationship emerges when job satisfaction is a result of other elements of the reward and goal-setting procedures of the organization. In the case of Wright and Staw (1999) it is a result of the fact that some employees simply tend to be satisfied and to perform well. This implies that firms may be able to improve performance by screening and recruiting such satisfied, productive employees, although they cannot do much to convert an unsatisfied employee into a satisfied one so as to enhance performance. Numerous studies cited later in the section on compensation tend to find a strong positive relationship with pay satisfaction and performance (e.g., Heneman and Judge [2000], Koslowsky, Sagie, Krausz and Singer [1997], Greenberg [1990, 1993], and Bretz and Thomas [1992]).

4 For reviews of the *existence* of high-performance work practices, see, for example, Betcherman and McMullen (1986), Betcherman, McMullen, Leckie and Caron (1994), Leckie et al. (2001), Long (1989), Lowe (2001), McMullen et al. (1993), Verma and Lonti (2001), and Wagar (1993) in Canada. For the United States, see Ichniowski et al. (1996), Lawler, Mohrman and Ledford (1992), and Osterman (1994, 1996) as well as Dunlop and Weil (1996) for apparel, and MacDuffie (1995) for automobile manufacturing. In general, the studies find that many organizations have adopted one or a few innovative work practices, but few have adopted bundles of them. Their adoption is more prominent in new Greenfield sites.

5 For reviews of the *effects* of high-performance work practices, see, for example, Applebaum et al. (2000), Becker and Huselid (1998), Bélanger (2000), Guest (1997), Ichniowski et al. (1996), Kling (1995), Kopelman (1986), Macy and Izumi (1993), Newton (1996), U.S. Department of Labor (1993), Weber (1994), and Wood (1999).

6 For the importance of clustering job design practices with other HRM practices into high-performance work systems see Appelbaum and Batt (1994), Bailyn (1993), Bélanger (2000), Berg (1999), Betcherman, McMullen, Leckie and Caron (1994), Black and Lynch (1996, 1997, 2000*a*, 2000*b*), Cohen and Bailey (1997), Huselid (1995), Huselid and Becker (1996), Hoque (1999), Gordon and Wiseman (1994), Ichniowski (1992), Ichniowski and Shaw (1995, 1999), Ichniowski, Shaw and Prennushi (1997), Kalleberg and Moody (1996), MacDuffie (1995), MacDuffie and Krafcik (1992), Macy and Izumi (1993), Pil and McDuffie (1996), Shaiken, Lopez and Mankita (1997), Shaw, Delery, Jenkins and Gupta (1998), U.S. General Accounting Office (1987), and Youndt, Snell, Dean and Lepal (1996). For contrary views that such practices can be universal best practices and stand on their own see, for example, Delaney and Huselid (1996).

7 For insignificant or even negative effects if such individual practices are developed on their own see Ichniowski, Shaw and Prennushi (1997), Levine and Tyson (1990), and Katz, Kochan and Keefe (1987).

8 For the importance of integrating job design practices into the business strategy of the organization see Arthur (1992, 1994), Becker and Gerhart (1996), Delery and Doty (1996), Dunlop and Weil (1996), Gerhart, Trevor and Graham (1996), Gershenfeld (1987), Guest and Hoque (1994), Hoque (1999), Huselid (1995), MacDuffie (1995), Milgrom and Roberts (1995), and Pfeffer (1994, 1998).

9 For reviews of the impact of EI practices see Bélanger (2000), Cotton (1993), Cotton et al. (1988), Lawler, Mohrman and Ledford (1992, 1995), Ledford, Lawler and Mohrman (1988), Levine and Tyson (1990), Locke et al. (1980), Locke and Schweiger (1979), Miller and Monge (1986), Verma and Taras (2000), Wagar (1996), and Wagner (1994).

10 For the importance of clustering EI practices with other HRM practices see Addler et al., Bartel (2000), Batt and Applebaum (1995), Black and Gregerson (1997), Black and Lynch (1996, 1997, 2000), Cooke (1994), Cutcher-Gershenfeld (1991), Doucouliagos (1995), Dyer and Reeves (1995), Fernie and Metcalf (1995), Kruse (1993), and Milkman (1997). Addison et al. (2000) found EI to have a positive effect on firm performance in non-union companies, not in unionized companies.

11 Freeman and Kleiner (2000), for example, find employee involvement increases employee satisfaction but not firm performance. Leckie et al. (2001) find workers who participate in EI to be more satisfied in their jobs.

12 For discussions of the importance of union support see Black and Lynch (1996, 1997, 2000), Cooke (1989, 1992, 1994), Drago (1988), Eaton (1994), Kochan et al. (1984), Lam and Reshef (1999), Rubenstein (2000), Thacker and Fields (1987), Verma (1989), and Verma and McKersie (1987).

13 Canadian studies on the effect of employee ownership on performance include Conte and Tannenbaum (1978), Long (1978a, 1978b, 1979, 1980, 1982), and Gunderson et al. (1995), with the later study also providing a review. Conte and Svenjar (1990) and Levine and Tyson (1990) survey the U.S. evidence and conclude that the results are mixed but that positive effects are common, especially when ownership is combined with employee participation.

14 See, for example, Allen and Clark (1987), Kotlikoff and Wise (1987), Lazear (1983, 1990), Lazear and Moore (1988), Pesando and Gunderson (1988), Pesando, Gunderson and Shum (1992), and Pesando, Hyatt and Gunderson (1992).

15 While there has been an explosion of compensation literature in recent years (especially associated with executive compensation), the empirical literature evaluating the impact of compensation on various outcomes is relatively new. In an earlier review of that literature, Milkovich (1988, p. 264) concluded that there were too few reliable studies to provide any systematic evidence linking compensation practices to performance. Ehrenberg and Milkovich (1987, p. 107) also concluded: "Unfortunately, both the private and public sector studies utilize non-rigorous quasi-experimental designs and suffer from methodological and/or measurement problems (e.g., selection bias, uncontrolled variables). This leads us to conclude that we know very little about the effects of merit-pay schemes on employee performance and even less about their effects on the firm's financial well-being." Other reviews, most subsequent to those earlier reviews, have concluded that strategic pay practices can have a substantial effect on individual and organizational performance (Ehrenberg (1990), Gerhart (2000), Gerhart and Milkovich (1992), Gerhart et al. (1992), Gomez-Mejia and Balkin (1992), Heneman (1992), Locke et al. (1980), Schay (1997), and Wood (1996).

16 For evidence on the effect of individual incentive pay systems on productivity and performance see Abowd (1990), Antle and Smith (1986), Balkin and Gomez-Mejia (1987, 1990), Bhagat et al. (1985), Booth and Frank (1999), Brickley et al. (1985), Campbell et al. (1998), Coughlin and Schmidt (1985), Delaney and Huselid (1996), Eriksson (1999), Drago and Garvey (1998), Fernie and Metcalf (1995), Gerhart and Milkovich (1990), Gerhart and Murray (1998), Gomez-Mejia (1992), Gomez-Mejia and Balkin (1992), Greene (1978), Heywood et al. (1997), Huselid (1995), Huselid and Becker (1996), Kahn and Sherer (1990), Latham and Dessett (1978), Lawler (1971, 1988, 1990), Leonard (1990), Main, O'Reilly and Wade (1993), Mitchell, Lewin and Lawler (1990), Montemayor (1996), Murphy (1985, 1986), Paarsch (1999), Rajagopalan (1996), Roth and O'Donnell (1996), Tehranian and Waegelein (1985), and Youndt, Snell, Dean and Lepak (1996). Evidence of the positive effect of larger expected prizes in sports tournaments is found in Ehrenberg and Bognanno (1990*a*, 1990*b*) for professional golf, and in Becker and Huselid (1992) for racing. Marsden and Richardson (1994) found merit pay not to have any effect on motivation in the public sector in Britain.

17 For evidence on the positive effect of group profit sharing on productivity and performance, see Arthur and Jelf (1999), Bhargava (1994), Blasi, Conte and Kruse (1996), Brown, Fakhfakh and Sessions (1999), Brown and Heywood (2002), Bullock and Lawler (1984), Bullock and Tubbs (1987), Conte and Kruse (1991), Cooke



BEST COPY AVAILABLE

(1994), Delery and Doty (1996), Doucouliagos (1995), Florkowski and Shastri (1992), Gerhart, Trevor and Graham (1996), Hammer (1998), Hansen (1997), Jones and Kato (1993, 1995), Kaufman (1992), Kraft (1991), Kruse (1993, 1996), Long (2000), Mitchell, Lewin and Lawler (1990), Peel and Wilson (1990), Schuster (1984*a*, 1984*b*), Welbourne and Andrews (1996), Welbourne and Gomez-Mejia (1995), Welbourne et al. (1995), Weitzman and Kruse (1990), Wilson and Peel (1991), and Zenger and Marshall (1995).

18 Evidence from Delaney and Doty (1996) and Huselid (1995) suggests that compensation practices can have positive impacts on their own even if not interacting with other complementary human resource practices or being integrated with the general business strategy of the organization.

19 The importance of such complementary interactions of compensation policy with other human resource practices is emphasized in Black and Lynch (2000), Cooke (1994), Freeman and Kleiner (2000), Kruse (1993), Mitchell, Lewin and Lawler (1990), and Youndt, Snell, Dean and Lepal (1996).

20 The importance of an integrated fit of compensation practices with the overall business strategy is emphasized in Balkin and Gomez-Mejia (1987, 1990), Gomez-Mejia (1992), Gomez-Mejia and Balkin (1992), Montemayor (1996), and Rajagopalan (1996).

21 In their recent review, Rynes and Gerhart (2000, p. 363) conclude: "A credible body of evidence has accumulated suggesting that differences in pay strategies can be associated with fairly sizable differences in organizational performance. What is still debated, however, is whether there are 'best practices' in terms of pay strategy or whether the effectiveness of particular practices depends on their alignment with other factors such as business and human resource strategies. At present, some evidence supports each perspective."

22 Jenkins, Ledford, Gupta and Doty (1992), Ledford and Bergel (1991), Ledford, Tyler and Dixey (1991), LeBlanc (1991), Heneman and Ledford (1998), and Murray and Gerhart (1998).

23 Ledford and Bergel (1991) do highlight these higher costs of skilled-based pay.

24 In their review Heneman and Judge (2000, p. 77) conclude: "Pay dissatisfaction consistently influenced both cognitive and behavioral changes. These included input changes (performance, commitment, trust), outcome changes (salary negotiation, theft), steps towards change (job interview sign up, job search, pro-union voting), and withdrawal (turnover intentions, turnover, job transfer, lateness). Thus it is abundantly clear that employees revert to a number of cognitive and behavioral ways of reducing their pay dissatisfaction. From an organizational perspective, these actions involve undesirable consequences and outcomes." They further conclude (p. 85) that "Research has unequivocally shown that pay dissatisfaction can have important and undesirable impacts on numerous employee outcomes." Examples of the negative effects of pay dissatisfaction include lateness (Koslowsky, Sagie, Krausz and Singer, 1997), theft (Greenberg, 1990, 1993), and team performance and turnover (Bretz and Thomas, 1992).

25 Worksharing typically involves the employees in the organization reducing their workweek (e.g., to four days) to avoid layoffs (e.g., to avoid 20 percent of the organization being laid off). In Canada, worksharing programs can be eligible for unemployment insurance. Job sharing typically involves two employees sharing the same job by each working approximately half of the week.

26 Compressed workweeks typically involve the compression of a workweek into fewer days per week and more hours per day, such as with four 10-hour days, or three 12-hour days and an occasional extra 12-hour day.

27 Flexitime typically involves flexible start and end times with a common core time being required.

28 As discussed previously, the positive effect of compressed workweeks (or any other workplace practice) on attitudes towards the practice may also reflect the fact that workers and managers who choose the practice may be predisposed to it.

29 Positive effects of compressed workweeks on attitudes were found in 12 of the 18 studies reviewed in Ronen and Primps (1981), as well as in Hodge and Tellier (1975), Hartman and Weaver (1977), Steele and Poor (1970), Ivancevich (1974) and Robertson and Ferlejowski (1973) but not in Foster et al. (1979).

30 Generally positive effects of compressed workweeks on organizational measures such as absenteeism and turnover are discussed in Baltes et al. (1999), Calvasina and Boxx (1975), Cunningham (1982), Dacri and Ferguson (1985), Dalton and Mesch (1990), Dunham, Pierce and Castaneda (1987), Economides, Reck and Schuh (1989), Goodale and Aagaard (1975), Hartman and Weaver (1977), Hung (1996), Ivancevich and Lyon (1977), Latack and Foster (1985), and Venn (1997), as well as in the studies reviewed in Kopelman (1986), Nollen (1982), and Ronen (1984). No effect, however, was found in Ivancevich (1974), which was one of the few studies to use a before-and-after design with a control group.

31 Stress and fatigue effects of compressed workweeks are documented in Fast and Frederick (1996), Goodale and Aagaard (1975), Hodge and Tellier (1975), Ivancevich and Lyon (1977), Steele and Poor (1970), but not Latack and Foster (1985).

32 The positive effect of flexitime on attitudes is found in Baltes et al. (1999), Dunham et al. (1987), Grover and Crooker (1995), Harvey and Luthans (1979), Hicks and Klimoski (1981), Kossek and Ozeki (1998), Lambert (2000), Orpen (1981), Pierce and Newstrom (1982, 1983), Pierce et al. (1989), Swart (1985), and in 26 of the 27 studies reviewed in Ronen (1981) and in most of the case studies reviewed in Nollen (1979).

33 For generally positive effects of flexitime on productivity and reduced absenteeism, see Adams and Jex (1999), Baltes et al. (1999), Harrick et al. (1986), Dalton and Mesch (1990), Golembiewski et al. (1974), Golembiewski and Proehl (1978), Gomez-Mejia et al. (1978), Kim and Campagna (1981), Krausz and Freiback (1983), McCampbell (1996), Mcguire and Liro (1987), Morgan (1977), Narayan and Nath (1982), Perry-Smith and Blum (2000), Petersen (1980), Pierce and Newstrom (1983), Pierce et al. (1989), Ralston et al. (1985), Ronen (1981, 1984), Scandura and Lankau (1997), Shaw, Delery, Jenkins and Gupta (1998), Shephard, Clifton and Kruse (1996), Walch and Gordon (1980), and Zippo (1984), and earlier case studies reviewed in Nollen (1979). Zero or negligible effects were found in Christensen and Staines (1990), Dunham et al. (1987), Narayanan and Nath (1982), Orpen (1981), Schein et al. (1977), and Thomas and Ganster (1995).

34 The effect of flexitime in reducing stress is documented in Golembiewski and Hilles (1977), Pierce and Newstrom (1980, 1982), and Hicks and Klimoski (1981).

35 Negative effects of shift work are found, for example, in Frost and Muhammed (1985) and Smith, Collegan and Tasto (1982).

36 See, for example, Adams, Folkard and Young (1986) and Frese and Konek (1984).

37 Fitzer (1997), Hill et al. (1998), Huws (1993), Pratt (1999), Stanworth and Stanworth (1997) and five U.K. studies summarized in Hamblin (1995), but no productivity effects found in KPMG (1998). Duxbury, Higgins and Neufeld (1999) also find that telecommuting often conflicts with work-family balance.

38 Donner (1987, p. 119) and Schuster and Rhodes (1985).

39 Donner (1987, p. 120) and Jamal and Crawford (1981).

40 Canada, Employment and Immigration Commission (1980), Lanoie et al. (1996), Larouche and Trudel (1983), Meier (1979), McCarthy and Rosenberg (1981), Meltz, Reid and Swartz (1981), and Reid (1982).

41 Canada, Commission of Inquiry on Educational Leave and Productivity (1979), O'Carolyn (1987), Paris (1989).

42 Reviews of that literature are provided in Barnow (1987), Betcherman, Leckie and McMullen (1996, 1997), Betcherman, McMullen and Davidman (1998), Brown (1991), Chaykowski and Lewis (1994), Mangum, Mangum and Hansen (1990), and Parsons (1986, 1990). Specific studies include Altonji and Spletzer (1991), Baldwin (1999), Barron et al. (1989, 1993), Bartel (1994, 1995), Bassi and McMurrer (1998), Bassi and Van Buren (1999), Bishop (1990, 1991), Booth (1991, 1993), Brown (1989), Burke and Day (1986), Conference Board (2000), Goldstein (1986), Groot (1999), Holzer et al. (1993), Krueger and Rouse (1998), Kopelman (1986), Leckie et al. (2001), Levine (1993), Lillard and Tan (1992), Loewenstein and Spletzer (1998), Lynch

(1991, 1992), O'Brien and Kroggel (1989), OECD (1993), Parsons (1986), Riddell (1995), Russel, Terborg and Powers (1985), and Veum (1995).

43 Costs of discrimination are documented in Ashenfelter and Pencavel (1976), Bergmann (1971), and Dunnette and Motowidlo (1982).

44 The small administrative costs are documented in Jain and Hackett (1989), Leonard (1984), and Simon (1986).

45 Canadian evidence on this from a number of studies is cited in Gunderson (2002).

46 Positive effects of following non-discriminatory practices are documented in Leonard (1984), Lobel (1999), Osterman (1982), and Shaeffer (1978).

47 Positive effects of diversity programs are documented in Cox and Blake (1991), Cox, Lobel and McLeod (1991), Lattimer (1995), Lobel (1999), Loden and Rosener (1991), Ruhe and Eatman (1977), Thomas (1991), and Watson, Kumar and Michaelsen (1993).

48 See Duxbury and Higgins (2001) and Glass and Estes (1997) and references cited therein for comprehensive discussions of work-life issues associated with balancing the role of employee, parent, spouse and eldercare giver.

49 Evidence of increased stress resulting from work intensification is found, for example, in Lewchuk and Robertson (1996) and Rinehart, Huxley and Robertson (1997) in Canadian auto production, although in their comprehensive analysis of U. S. steel, apparel and medical imaging, Applebaum et al. (2000) find no evidence of increased stress as measured by such factors as role overload (speedup), required overtime, inadequate resources, conflict with co-workers and unsafe and unpleasant working conditions.

50 Generally positive effects of family friendly policies at the workplace are found in Bailyn (1993), Bailyn et al. (1998), Bond, Galinsky and Swanberg (1998), Duxbury and Higgins (2001), Glass and Estes (1997), Grover and Crooker (1995), Joesch (1997), Lambert (1995, 2000), Lobel (1999), Meyer and Allen (1997), McCampbell (1996), National Council of Jewish Women (1987), and Thomas and Ganster (1995).

51 The importance of supervisory support is emphasized in Bowen (1998), Carlson and Perrewe (1999), Greenberger et al. (1989), and Thomas and Ganster (1995).

52 Positive effects of child care programs are documented in Burd et al. 1984), Emlen and Koren (1984), Fernandez (1986), Goff, Mount and Jamison (1990), Goldberg et al. (1989), Greenberger et al. (1989), Grover and Crooker (1995), Kossek and Nichol (1992), Milkovich and Gomez (1976), Miller (1984), Peterson and Massengill (1988), Ritter (1990), and Youngblood and Chambers-Cook (1984), but not in Goff, Mount and Jamison (1990) or Thomas and Ganster (1995).

53 Positive effects of health and fitness programs are found in Adams (1988), Aldana (1998), Bowne et al. (1984), Cox, Shephard and Corey (1981), Donoghue (1977), Edwards and Gettman (1980), Falkenberg (1987), Jeffery et al. (1993), Gettman (1986), Griffiths (1996), Kaman (1987), Kerr and Voss (1993), Kondrasuk (1980), Leatt, Hattin, West and Shephard (1988), Lynch et al. (1990), Nay (1986), Pelletier (1996), Pyle (1979), Shain, Suurvali and Boutilier (1986), Shephard (1998), Sloan and Grumm (1988), Sonnenstuhl (1986), Tsai, Baun and Bernacki (1987), and Warner et al. (1988), but for qualifications see Katz and Showstack (1990).

54 Positive perceived effects of stress management programs on employees are found in Frew (1974), Forman (1981), Firth-Cozens (1992), and Gronningsacter et al. (1992).

55 Positive organizational effects of stress management programs are found in Charlesworth, Williams and Baer (1984), Francis and Pennebacker (1992), Gray-Toft (1980), Larsson (1987), Manuso (1980), Sarason, Johnson, Berberich and Siegal (1979), and Seamonds (1982).

BEST COPY AVAILABLE

56 No effects, or even negative effects, of stress management programs are found in Francis and Pennebacker (1992), Higgins (1986), Murphy (1996), Murphy and Sorenson (1988), Reynolds, Taylor and Shapiro (1993), Sallis et al. (1987), and Steinmetz, Kaplan and Miller (1982).

57 Positive effects of smoking bans are documented in Weis (1981*a*, 1981*b*), Williams (1986), but for a contrary view see Solomon (1983).

58 The positive effects of alcohol and substance abuse programs are documented in Alander and Campbell (1975), Elmuti (1993), Schramm et al. (1978), Smith (1978), and Tersine and Hazeldine (1982). Weiss (1987) reviews various other studies and provides a scathing critique concluding (p. 354): "The far more intractable problem ... is that of getting a fair hearing for evidence that runs counter to the interests of the vast numbers of consultants, therapists, administrators, and others whose livelihood depends upon general acceptance of the idea that alcohol abuse among employees is an enormous yet tractable problem."

59 Positive effects of employee assistance and counseling programs are discussed in Holosko and Feit (1988), Sonnenstuhl (1986), Sonnenstuhl and Trice (1990), and Wagner (1982).

60 Some support for the "business case" is given in Drago et al. 2001, Galinsky and Johnson (1998), and Rapoport et al. (2002). In their introduction to their symposium on the topic, Drago and Hyatt (forthcoming) conclude that there is yet insufficient evidence to prove the business case.

61 Canadian evidence on the extent of, or lack of diffusion, of workplace practices that appear successful is provided in Leckie et al. (2001), Lowe (2001), Lowe and Schellenberg (2001), and Verma and Lonti (2001), highlighting that diffusion is a product of both the number of firms that adopt the practice, and the proportion of employees covered by the practice.

62 Lowe and Schellenberg (2001) document the negative impact on worker commitment and trust of having experienced the downsizing that went on as part of the organizational change strategy of the 1990s and that continues today.

63 As stated by Appelbaum and Batt (1994, p. 154): "Work-team leaders, QWL facilitators, and worker representatives on operations and strategic management committees can threaten the authority of the elected union leadership if they are not fully integrated into a revamped union organizational structure."

64 This assumes that the net social benefits of the innovation are positive – that is, that any undesirable side effects such as increased polarisation between good and bad jobs, are offset by the other benefits of the innovation.

## References


Abowd, J. M. (1990). Does performance based managerial compensation affect corporate performance? *Industrial and Labor Relation Review* 43: 52S-73S.

Adams, G. A. and S. M. Jex (1999). Relationships between time management, control, work-family conflict and strain. *Journal of Occupational Health Psychology* 33: 72-77.

Adams, J. (1988). A healthy cut in costs. *Personnel Administrator* 33: 42-46.

Adams, J., S. Folkard and M. Young (1986). Coping strategies used by nurses on night duty. *Ergonomics* 29: 185-196.

Addison, J. T., W. S. Siebert, J. Wagner and X. Wei (2000). Worker participation and firm performance: Evidence from Germany and Britain. *British Journal of Industrial Relations* 38: 7-48.

Addler, P., B. Golduftofts and D. Levine (1997). Ergonomics, employee involvement and the Toyota system. *Industry and Labor Relations Review* 50: 416-437.

Alander, R. and T. Campbell (1975). An evaluative study of an alcohol and drug recovery program: a case study of the Oldsmobile experience. *Human Resource Management* 14: 14-18.

Aldana, S. (1998). Financial impact of worksite health and promotion and methodological grading of the evidence. *The Art of Health Promotion* 2: 1-8.

Allen, S. and R. Clark (1987). Pensions and firm performance. In *Human Resource and Firm Performance*. Edited by M. Kleiner, R. Block, M. Roomkin and S. Sulsburg. Madison: Industrial Relations Research Association.

Altonji, J. G. and J. R. Spletzer (1991). Worker characteristics, job characteristics and the receipt of on-the-job training. *Industrial and Labour Relations Review* 45: 58-79.

Antle, R. and A. Smith (1986). An empirical investigation of the relative performance evaluation of corporate executives. *Journal of Accounting Research* 24: 1-32.

Appelbaum, E., T. Bailey, P. Berg and A. Kalleberg (2000). *Manufacturing Advantage: Why High-Performance Work Systems Pay Off*. Ithaca, N.Y.: Cornell University Press.

Appelbaum, E. and R. Batt (1994). *The New American Workplace: Transforming Work Systems in the United States*. Ithaca, N.Y.: Cornell IR Press.

Arthur, J. B. (1992). The link between business strategy and industrial relations systems in American steel minimills. *Industrial and Labor Relations Review* 45: 488-506.

____ (1994). Effects of human resource systems on manufacturing performance and turnover. *Academy of Management Journal* 37: 670-687.

Arthur, J. and G. Jelf (1999). The effects of gain-sharing on grievance rates and absenteeism over time. *Journal of Labor Research* 20: 133-145.

Ashenfelter, O. and J. Pencavel (1976). Estimating the effects on costs and price of the elimination of sex discrimination: The case of telephone rates. In *Equal Employment Opportunity and the AT&T Case*. Edited by P. Wallace. Cambridge, Mass: MIT Press.

Bailyn, L. (1993). *Work-family: A Catalyst for Change*. Cambridge, M.A.: Sloan School of Management, Massachusetts Institute of Technology.





BEST COPY AVAILABLE

Bailyn, L. et al. (1998). *Creating Work and Life Integration Solutions*. Cambridge: Radcliffe Public Policy Institute.

Baldwin, J. (1999). *Innovation, Training, and Success*. Ottawa: Statistics Canada, Analytical Studies Branch.

Balkin, D. B. and L. R. Gomez-Mejia (1987). Toward a contingency theory of compensation strategy. *Strategic Management Journal* 8: 169-182.

____ (1990). Matching compensation and organizational strategies. *Strategic Management Journal* 11: 153-169.

Baltes, B. B. et al. (1999). Flexible and compressed workweek schedules: A meta-analysis of their effects on work-related criteria. *Journal of Applied Psychology* 84: 496-513.

Barnow, B. S. (1987). The impact of CETA programs on earnings. *Journal of Human Resources* 22: 157-193.

Barron, J. M., M. C. Beger and D. A. Black (1999). Do workers pay for on-the-job training? *Journal of Human Resources* 34: 235-252.

Barron, J. M., D. A. Black, and M. A. Loewenstein (1989). Job matching and on-the-job training. *Journal of Labor Economics* 7: 1-19.

____ (1993). Gender differences in training, capital and wages. *Journal of Human Resources* 28: 343-364.

Bartel, A. (1994). Productivity gains from the implementation of employee training programs. *Industrial Relations* 33: 441-425.

____ (1995). Training, wage growth and job performance: Evidence from a company database. *Journal of Labor Economics* 13: 401-425.

____ (2000). *Human resource management and performance in the service sector: The use of bank branches*. NBER Working Paper, 7647. Cambridge, MA: National Bureau of Economic Research.

Bassi, L. and D. McMurrer (1998). Training investment can mean financial performance. *Training and Development* 52: 40-42.

Bassi, L. and M. Van Buren (1999). *The 1999 ASTD State of the Industry Report*. Alexandriai, Virginia: American Society for Training and Development.

Batt, R. and E. Applebaum (1995). Worker participation in diverse settings: Does the form affect the outcome? And, if so, who benefits? *British Journal of Industrial Relations* 3: 353-378.

Becker, B. E. and B. Gerhart (1996). The impact of human resource management on organizational performance: Progress and prospects. *Academy of Management Journal* 39: 799-801.

Becker, B. E. and M. A. Huselid (1992). The incentive effect of tournament compensation schemes. *Administrative Science Quarterly* 37: 336-347.

____ (1998). High performance work systems and firm performance: A synthesis of research and managerial implications. *Research in Personnel and Human Resources* 16: 53-101.

Bélanger, J. (2000). *The Influence of Employee Involvement on Productivity: A Review of the Research*. Ottawa: Human Resources Development Canada.

Berg, P. (1999). The effects of high performance work practices on job satisfaction in the United States steel industry. *Relations Industrielles/Industrial Relations* 54: 111-135.

Bergmann, B. (1971). The effect on white incomes of discrimination in employment. *Journal of Political Economy* 79: 294-313.

Betcherman, G., N. Leckie and K. McMullen (1996). Workplace training in Canada: New evidence on incidence and impacts. *Canadian Business Economics* 5: 33-50.

____ (1997). *Developing Skills in the Canadian Workplace*: The Results of the Ekos Workplace Training Survey – CPRN Study No. W|02. Ottawa: Canadian Policy Research Networks.

Betcherman, G. and K. McMullen (1986). *Working With Technology: A Survey of Automation in Canada*. Ottawa: Ministry of Supply and Services.

Betcherman, G., K. McMullen and K. Davidman (1998). *Training for the New Economy – A Synthesis Report*. Ottawa: Canadian Policy Research Networks.

Betcherman, G., K. McMullen, N. Leckie and C. Caron (1994). *The Canadian Workplace in Transition*. Kingston, ON: IRC Press.

Bhagat, S., J. Brickley and R. Lease (1985). Incentive effects of employee stock purchase plans. *Journal of Financial Economics* 14: 195-216.

Bhargava, S. (1994). Profit sharing and the financial performance of companies: Evidence from the U.K panel data. *The Economic Journal* 104: 1044-1056.

Bishop, J. (1990). Job performance, turnover and wage growth. *Journal of Labor Economics* 83: 363-386.

____ (1991). On the job training of new hires. In *Market Failure in Training? New Economic Analysis and Evidence on Training of Adult Employees*. Edited by D. Stern and J.M. Rizen. New York: Springer-Verlag.

Black, J. S. and H. B. Gregersen (1997). Participative decision making: An integration of multiple dimensions. *Human Relations* 50: 859-878.

Black, S. and L. Lynch (1996). Human capital investments and productivity. *American Economic Review* 86: 263-267.

____ (1997). How to compete: The impact of workplace practices and Information Technology on productivity. NBER Working Paper No. 6120. Cambridge, MA: National Bureau of Economic Research.

____ (2000*a*). What's driving the new economy: The benefits of workplace innovation. NBER Working Paper, No. 7479. Cambridge, MA: National Bureau of Economic Research.

Blasi, J., M. Conte and D. Kruse (1996). Employee stock ownership and corporate performance among public companies. *Industrial and Labor Relations Review* 50: 60-79.

Blinder, A. (ed.) (1990). *Paying for Productivity: A Look at the Evidence*. Washington, D.C.: Brookings Institution.

Bond, J. T., E. Galinsky and J. E. Swanberg (1998). *The 1997 National Study of the Changing Workforce*. New York: Families and Work Institute.

Booth, A. (1991). Job-related formal training: Who receives it and what is it worth? *Oxford Bulletin of Economics and Statistics* 53: 281-294.

____ (1993). Private sector training and graduate earnings. *Review of Economics and Statistics* 75: 164-170.

Booth, A. and J. Frank (1999). Earning, productivity and performance related pay. *Journal of Labor Economics* 17: 447-463.



BEST COPY AVAILABLE

Bowen, G. (1998). Effects of leader support in the work unit on the relationship between work spillover and family adaptation. *Journal of Family and Economic Issues* 19: 25-52.

Bowne, D. W., M. L. Russell and J. L. Morgan (1984). Reduced disability and health care costs in an industrial fitness program. *Journal of Occupational Medicine* 26: 809-816.

Bretz, R. D., Jr. and S. L. Thomas (1992). Perceived equity, motivation, and final-offer arbitration in major league baseball. *Journal of Applied Psychology* 77: 280-287.

Brickley, J., S. Bhagat and R. Lease (1985). The impact of long-run managerial compensation plans on shareholder wealth. *Journal of Accounting and Economics* 7: 115-129.

Brown, C. (1991). Empirical evidence of private training. *Research in Labor Economics.* 11: 97-113.

Brown, J. (1989). Why do wages increase with tenure? *American Economic Review* 79: 971-991.

Brown, M. and J. Heywood (2002). Paying for performance: What has been learned? In *Paying for Performance: An International Comparison.* Armonk, N.Y.: M. E. Sharpe.

Brown, S., F. Fakhfakh and J. G. Sessions (1999). Absenteeism and employee sharing: An empirical analysis based on French panel data, 1981-1991. *Industrial and Labor Relations Review* 52: 234-251.

Bullock, R. J. and E. E. Lawler (1984). Gainsharing: A few questions and fewer answers. *Human Resource Management* 23: 23-40.

Bullock, R. J. and M. E. Tubbs (1987). A case meta-analysis of gainsharing plans as organizational development interventions. *Journal of Applied Behavioral Science* 26: 383-404.

Burd, S., P. Aschbacher and J. McCrosky (1984). *Employer-Supported Child Care.* Dover, Mass.: Auburn House.

Burke, M. and R. Day (1986). A cumulative study of the effectiveness of managerial training. *Journal of Applied Psychology* 71: 232-245.

Calvasina, E. J. and W. R. Boxx (1975). Efficiency of workers on the four-day workweek. *Academy of Management Journal* 18: 604-610.

Campbell, D. J., K. M. Campbell and H. Chia (1998). Merit pay, performance appraisal and individual motivation: An analysis and alternative. *Human Resource Management* 37: 131-146.

Canada, Commission of Inquiry on Educational Leave and Productivity (1979). *Education and Working Canadians: Report of the Commission of Inquiry on Educational Leave and Productivity.* Ottawa: Labour Canada.

Canada, Employment and Immigration Commission (1980). *Evaluation of UI-Funded Worksharing in Canada.* Ottawa: CICO.

Carlson, D. and P. Perrewe (1999). The role of social support in the stressor-strain relationship: and examination of work-family conflict. *Journal of Management* 25: 513-540.

Charlesworth, E. A., B. J. Williams and P. E. Baer (1984). Stress management at the worksite for hypertension: Compliance, cost-benefit, health care, and hypertension-related variables. *Psychosomatic Medicine* 46: 387-397.

Chaykowski, R. and B. Lewis (1994). *A Review of Canadian and American Training Practices.* Kingston, ON: IRC Press.

Christensen, K. E. and G. L. Staines (1990). Flextime: A viable solution to work/family conflict? *Journal of Family Issues* 4: 455-477.

Cohen S. G. and D. E. Bailey (1997). What makes teams work: Group effectiveness research from the shop floor to the executive suite. *Journal of Management* 23: 239-290.

Conference Board (2000). *Turning Skills into Profits: Economic Benefits of Workplace Education Programs*. New York: Conference Board.

Conte, M. and D. L. Kruse (1991). ESOPs and profit-sharing plans: Do they link employee pay to company performance? *Financial Management* 20: 91-100.

Conte, Michael A. and Jan Svejnar (1990). The performance effects of employee ownership plans. In *Paying for Productivity: A Look at the Evidence*. Edited by A. Blinder. Washington, D.C: Brookings Institution.

Conte, M., J. Svejnar and A. Tannenbaum (1978). Employee-owned companies: Is the difference measurable? *Monthly Labor Review* 101: 23-28.

Cooke, W. (1989). Improving productivity and quality through collaboration. *Industrial Relations* 28: 299-319.

—— (1992). Product quality improvement through employee participation: The effects of unionization and joint union-management administration. *Industrial and Labor Relations Review* 46: 119-134.

—— (1994). Employee participation programs, group based incentives, and company performance: A union-nonunion comparison. *Industrial & Labor Relations Review* 47: 594-609.

Cotton, J. L. (1993). *Employee Involvement: Methods for Improving Performances and Work Attitudes*. Newbury Park, CA: Sage.

Cotton, J. L. et al. (1988). Employee participation: Diverse forms and different outcomes. *Academy of Management Review* 13: 8-22.

Coughlin, T. and R. Schmidt (1985). Executive compensation, management turnover, and firm performance: An empirical investigation. *Journal of Accounting and Economics* 7: 43-66.

Courchene, T. (2001). *A State of Minds: Toward a Human Capital Strategy Future for Canadians*. Montreal: Institute for Research on Public Policy.

Cox, M., R. Shephard and R. Corey (1981). Influences of an employee fitness program upon fitness, productivity and absenteeism. *Ergonomics* 24: 795-806.

Cox, T. H. and S. Blake (1991). Managing cultural diversity: Implications for organizational competitiveness. *Academy of Management Executive* 5: 45-56.

Cox, T. H., S. A. Lobel and P. L. McLeod (1991). Effects of ethnic group cultural differences on cooperative and competitive behavior on a group task. *Academy of Management Journal* 34: 827-847.

Cunningham, J. B. (1982). Compressed shift schedules: Altering the relationship between work and non-work. *Public Administration Review* 42: 438-447.

Cutcher-Gershenfeld, J. (1991). The impact on economic performance of a transformation in workplace relations. *Industrial and Labor Relations Review* 44: 241-260.

Dacri, R. P. and J. Ferguson (1985). Thank God It's Tuesday. *Personnel Administrator* 30: 143-148.

Dalton, D. R. and D. J. Mesch (1990). The impact of flexible scheduling on employee attendance and turnover. *Administrative Science Quarterly* 35: 370-387.



BEST COPY AVAILABLE

Delaney, J. T. and M. A. Huselid (1996). The impact of human resource management practices on perceptions of organizational performance. *Academy of Management Journal* 39: 949-969.

Delery, J. E. and H. D. Doty (1996). Modes of theorizing in strategic human resource management: Tests of universalistic, contingency, and configurational performance predictions. *Academy of Management Journal* 39: 803-835.

Donner, A. (Chair) (1987). *Working Times: Report of the Ontario Task Force on Hours of Work and Overtime.* Toronto: Ontario Ministry of Labour.

Donoghue, S. (1977). The correlation between physical fitness, absenteeism and work performance. *Canadian Journal of Public Health* 68: 201-203.

Doucouliagos, C. (1995). Worker participation and productivity in labor managed and participatory capitalist firms: a meta analysis. *Industrial and Labor Relations Review* 49: 58-77.

Drago, R. (1988). Quality circle survival: An exploratory analysis. *Industrial Relations* 27: 336-351.

Drago, R. and G. Garvey (1998). Incentives for helping on the job. *Journal of Labor Economics* 16: 1-25.

Drago, R. and D. Hyatt (forthcoming). Work/family policies and practices: performance for employees and employers. *Industrial Relations.*

Drago, R. et al. (2001). The willingness-to-pay for work/family policies: a study of teachers. *Industrial and Labor Relations Review* 55: 22-41.

Dunham, R. B., J. L. Pierce and M. B. Castaneda (1987). Alternative work schedules: Two-field quasi-experiments. *Personnel Psychology* 48: 215-242.

Dunlop, J. T. and D. Weil (1996). Diffusion and performance of modular production in apparel industry. *Industrial Relations* 35: 334-355.

Dunnette, M. and J. Motowidlo (1982). Estimating benefits and costs of antisexist training programs in organizations. In *Woman in the Workforce.* Edited by J. Bernardin. New York: Prager.

Duxbury, L. and C. Higgins (2001). *Work-Life Balance in the New Millennium: Where Are We? Where Do We Need to Go?* Discussion Paper No. W|12. Ottawa: Canadian Policy Research Networks.

Duxbury, L., C. Higgins and Neufeld (1999). Tipping the balance: teleworking and homelife. *Flexible Working* 4: 19-21.

Dyer, L. and T. Reeves (1995). Human resource strategies and firm performance. *International Journal of Human Resource Management* 6: 656-670.

Eaton, A. (1994). Factors contributing to the survival of employee participations programs in unionized settings. *Industrial and Labor Relations Review* 47: 371-389.

Economides, S., D. N. Reck and A. J. Schuh (1989). Longer days and shorter weeks improve productivity. *Personnel Administrator* 34: 112-114.

Edwards, S. and L. Gettman (1980). The effect of employee fitness on job performance. *Personnel Administrator* 25: 41-61.

Ehrenberg, R. G. (1990). Introduction: Do compensation policies matter? *Industrial and Labour Relations Review* 43: 3S-12S.

Ehrenberg, R. and M. Bognanno (1990*a*). Do tournaments have incentive effects? *Journal of Political Economy* 98:1307-24.

___ (1990*b*). The incentive effects of tournaments revisited: Evidence from the European PGA Tour. *Industrial and Labor Relations Review* 43: 74S-88S.

Ehrenberg, R. and G. Milkovich (1987). Compensation and firm performance. In *Human Resources and the Performance of the Firm*. Edited by M. Kleiner, R. Block, M. Roomkin and S. Salsburg. Madison: Industrial Relations Research Association.

Elmuti, D. (1993). Effects of drug testing programme on employee attitudes, productivity and attendance behaviours. *International Journal of Manpower* 14: 58-70.

Emlen, A. and P. Koren (1984). *Hard to Find and Difficult to Manage: The Effects of Childcare in the Workplace.* Portland: The Washington Partnership.

Eriksson, T. (1999). Executive compensation and tournament theory: Empirical tests on Danish Data. *Journal of Labor Economics* 17: 262-280.

Falkenberg, L. (1987). Employee fitness programs: Their impact on the employee and the organizations. *Academy of Management Review* 12: 511-522.

Fast, J. and J. Frederick (1996). Working arrangements and time strains. *Canadian Social Trends* 43:14-19.

Fernandez, J. (1986). *Child Care and Corporate Productivity.* Lexington: D.C. Health.

Fernie, S. and D. Metcalf (1995). Participation, contingent pay, representation and workplace performance: Evidence from Great Britain. *The British Journal of Industrial Relations* 33: 379-415.

Firth-Cozens, S. (1992). Occupational stress, clinical treatment and changes in job perceptions. *Journal of Occupational and Organizational Psychology* 65: 81-88.

Fitzer, M. (1997). Managing from afar: Performance and review in a telecommunity environment. *Compensation and Benefits Review* 29: 65-73.

Florkowski, G. and K. Shastri (1992). Stock-price response to profit sharing in unionized settings. *Journal of Labor Research* 13: 407-420.

Forman, S. G. (1981). Stress-management training: Evaluation of effects school psychological services. *Journal of School Psychology* 19: 233-241.

Foster, L. L., J. C. Latack and L. J. Riendl (1979). Effects and promises of the shortened work week. *Proceedings from the Annual Meeting of the Academy of Management* 39: 226-230.

Francis, M. E. and J. W. Pennebacker (1992). Putting stress into words: the impact of writing on physiological, absentee, and self-reported emotional well-being measures. *American Journal of Health Promotion* 6: 280-287.

Freeman, R. B. and M. M. Kleiner (2000). Who benefits most from employee involvement: Firms or workers? *American Economic Review* 90: 219-223.

Frese, M. and K. O. Konek (1984). Reasons to leave shiftwork and psychological and psychosomatic complaints of former shiftworkers. *Journal of Applied Psychology* 69: 509-514.

Frew, D. R. (1974). Transcendental medication and productivity. *Academy of Management Journal* 17: 362-368.

Frost, P. J. and J. Muhammed (1985). Shiftwork, attitudes, and reported behaviour: Some associations between individual characteristics and hours of work and leisure. *Journal of Applied Psychology* 64: 66-70.



BEST COPY AVAILABLE

Galinsky, E. and A. Johnson (1998). *Reframing the Business Case for Work-Life Initiatives*. New York: Families and Work Institute.

Gerhart, B. (2000). Compensation strategy and organizational performance. In *Compensation in Organizations: Current Research and Practice*. Edited by S. L. Rynes and B. Gerhart. San Francisco: Jossey-Bass.

Gerhart, B. and G. Milkovich (1990). Organizational differences in managerial compensation and financial performance. *Academy of Management Journal* 33: 663-691.

Gerhart, B. and G. T. Milkovich (1992). Employee compensation: Research and practice. In *Handbook of Industrial and Organizational Psychology*, Vol. 3. Edited by L. M. Hough and M. D. Dunnette. Palo Alto, CA: Consulting Psychologists Press.

Gerhart, B., G. Milkovich and B. Murray (1992). Pay, performance, and participation. In *Research Frontiers in Industrial Relations and Human Resources*. Madison, WI: Industrial Relations Research Association.

Gerhart, B. and B. Murray (1998). An empirical analysis of a skill-based pay program and plant performance outcomes. *Academy of Management Journal* 41: 68-78.

Gerhart, B., C. Trevor and M. Graham (eds.) (1996). New directions in employee compensation research. *Research in Personnel and Human Resource Management* 14: 143-203.

Gershenfeld, W. (1987). Employee participation in firm decisions. In *Human Resource and the Performance of the Firm*. Edited by M. Kleiner, R. Block, and S. Salsburg. Madison, WI: Industrial Relations Research Association.

Gettman, L. R. (1986). Cost/benefit analysis of a corporate fitness program. *Fitness in Business* 1: 11-17.

Glass, J. and S. Estes (1997). The family responsive workplace. *Annual Review of Sociology* 23: 289-313.

Goff, S. J., M. K. Mount and R. L. Jamison (1990). Employer supported child care, work/family conflict, and absenteeism: A field study. *Personnel Psychology* 43: 793-809.

Goldberg, W. A. et al. (1989). Attractiveness of child care and related employer-supported benefits and policies to married and single parents. *Child Youth Care Quarterly* 18: 23-37.

Goldstein, Irwin L. (1986). *Training in Organizations*, Second Edition. Monterey, CA: Brooks/Cole Publishing Company.

Golembiewski, R. T. and R. Hilles (1977). Drug company workers like new schedules. *Monthly Labour Review* 100: 65-69.

Golembiewski, R. T., R. Hilles and M. Kagno (1974). A longitudinal study of flexitime effects: some consequences of an O.D. structural intervention. *Journal of Applied Behavioral Science* 9: 503-532.

Golembiewski, R. T. and C. W. Proehl (1978). A survey of the empirical literature of flexible work hours: character and consequences of a major innovation. *Academy of Management Review* 3: 837-853.

Gomez-Mejia, L. R. (1992). Structure and process of diversification, compensation strategy, and firm performance. *Strategic Management Journal* 13: 381-397.

Gomez-Mejia, L. R. and D. B. Balkin (1992). *Compensation, Organizational Strategy and Firm performance*. Cincinnati, OH: South-Western.

Gomez-Mejia, L. R, M. S. Hopp and C. R. Sommerstad (1978). Implementation and evaluation of flexible hours: A case study. *Personnel Administrator* 23: 39-41.

Goodale, J. G. and A .K. Aagaard (1975). Factors relating to varying reactions to the four-day work week. *Journal of Applied Psychology* 69: 33-38.

Gordon J. and J. Wiseman (1994). *Best Plant Practices : The Human Resource Factor*. Kingston, ON: Industrial Relations Centre, Queen's University.

Gray-Toft, P. (1980). Effectiveness of a counseling support program for hospice nurses. *Journal of Counseling Psychology* 27: 346-354.

Greenberg, J. (1990). Employee theft as a reaction to underpayment inequity: The hidden cost of pay cuts. *Journal of Applied Psychology* 75: 561-568.

____ (1993). Stealing in the name of justice: Informational and interpersonal moderators of theft reactions to underpayment inequity. *Organizational Behavior and Human Decision Processes* 54: 81-103.

Greenberger, E., W. Goldberg, W. Hamill, R. O'Neil, and C. Payne (1989). Contributions of a supportive work environment to parents' well-being and orientation to work. *American Journal of Community Psychology* 17: 755-783.

Greene, C. N. (1978). Causal connections among managers' merit pay, job satisfaction, and performance. *Journal of Applied Psychology* 158: 95-100.

Griffiths, A. (1996). The benefits of employee exercise programs: A review. *Work and Stress* 10: 5-23.

Gronningsacter, H. et al. (1992). Improved health and coping by physical exercise or cognitive behavioral stress management-training in a work environment. *Psychology and Health* 7: 147-163.

Groot, W. (1999). Productivity effects of enterprise-related training. *Applied Economics Letters* 6: 369-371.

Grover, S. L. and K. J. Crooker (1995). Who appreciates family-responsive human resource policies: The impact of family-friendly policies on the organizational attachment of parents and non-parents. *Personnel Psychology* 48: 271-288.

Guest, D. (1997). Human resource management and performance: A review and research agenda. *International Journal of Human Resource Management* 8: 263-76.

Guest, D. and K. Hoque (1994). The good, the bad and the ugly: Human resource management in new non-union establishments. *Human Resource Management Journal* 5: 1-14.

Gunderson, M. (1986). Alternative methods for dealing with permanent layoffs, dismissals and plant closing. In *Adopting to Change: Labour Market Adjustment in Canada*. Edited by W. C. Riddell. Toronto: University of Toronto Press for the McDonald Commission.

____ (2002). Pay and employment equity: the role of markets, collective bargaining and legislation. In *Workplace Equality: An International Perspective on Legislation, Policy and Practice*. Edited by C. Agocs. Boston/London: Kluwer Academic Publishers.

Gunderson, M. and A. Sharpe (eds.) (1998). *Forging Business-Labour Partnerships: The Emergence of Sector Councils in Canada*. Toronto: University of Toronto Press.

Gunderson, M. et al. (1995). Employee buyouts in Canada. *British Journal of Industrial Relations* 33: 417-442.

Hamblin, H. (1995). Employees' perspectives on one dimension of labour flexibility. *Work, Employment and Society* 9: 473-498.

Hammer, T. H. (1988). New developments in profit sharing, gainsharing, and employee ownership. In *Productivity in Organizations: New Perspectives from Industrial and Organizational Psychology*. Edited by J. Campbell, R. Campbell and Associates. San Francisco: Jossey-Bass.

Hansen, D. G. (1997). Worker performance and group incentives: A case study. *Industrial and Labor Relations Review* 51: 37-49.

Harrick, E. J., G. R. Vanek and J. F. Michlitsch (1986). Alternate work schedules, productivity, leave usage, and employee attitudes: A field study. *Public Personnel Management* 15:159-169.

Hartman, R. I. and K. M. Weaver (1977). Four factors influencing conversion to a four-day work week. *Human Resource Management* 16: 24-27.

Harvey, B. H. and F. Luthans (1979). Flexitime: An empirical analysis of its real meaning and impact. *Business Horizons* 27: 31-36.

Heneman, H. G. and T. A. Judge (2000). Compensation Attitudes. In *Compensation in Organizations: Current Research and Practice*. Edited by S. L. Rynes and B. Gerhart. San Francisco: Jossey-Bass.

Heneman, H. G., G. E. Ledford, Jr. and M. T. Gresham (2000). The changing nature of work and its effects on compensation design and delivery. In *Compensation in Organizations: Current Research and Practice*. Edited by S. L. Rynes and B. Gerhart. San Francisco: Jossey-Bass.

Heneman, Robert L. (1992). *Merit Pay: Linking Pay Increases to Performance Ratings*. Reading, MA: Addison-Wesley.

Heneman, R. L. and G. E. Ledford, Jr. (1998). Competency pay for managers and professionals: Implications for teachers. *Journal for Personnel Evaluation in Education* 2: 103-121.

Heywood, J. S., W. Siebert and X. Wei (1997). Payment by results systems: British evidence. *British Journal of Industrial Relations* 35: 1-22.

Hicks, W. and R. J. Klimoski (1981). The impact of flexitime on employee attitudes. *Academy of Management Journal* 24: 729-741.

Higgins, N. C. (1986). Occupational stress and working women: the effectiveness of two stress reduction programs. *Journal of Vocational Behavior* 29: 66-78.

Hill, E., B. Miller, S. Weiner, and J. Colihan (1998). Influences of the virtual office on aspects of work/life balance. *Personnel Psychology* 51: 667-683.

Hodge, B. J. and R. D. Tellier (1975). Employee reactions to the four-day week. *California Management Review* 18: 25-30.

Holosko, M. and M. Feit (eds.) (1988). *Evaluation of Employee Assistance Program*. New York: Haworth Press.

Holzer, H., R. Block, M. Cheatham and J. Knott (1993). Are training subsidies for firms effective? The Michigan experience. *Industrial and Labor Relations Review* 46: 625-636.

Hoque, K. (1999). Human resource management and performance in the UK hotel industry. *British Journal of Industrial Relations* 37: 419-443.

HRDC and OECD (2001). *The Contribution of Human and Social Capital to Sustained Economic Growth and Well-Being: International Symposium Report*. Human Resources Development Canada and Organisation for Economic Co-operation and Development.



BEST COPY AVAILABLE

Human Resources Development Canada (2002). *Knowlege Matters: Skills and Learning for Canadians*. Ottawa: Human Resources Development Canada.

Hung, R. (1996). An annotated bibliography of compressed workweeks. *International Journal of Manpower* 17: 43-53.

Huselid, M. A. (1995). The impact of human resource management practices on turnover, productivity, and corporate financial performance. *Academy of Management Journal* 38: 635-672.

Huselid, M. A. and B. E. Becker (1996). Methodological issues in cross-sectional and panel estimates of the human resource-firm performance link. *Industrial Relations* 35: 400-422.

Huws, U. (1993). *Teleworkings in Britain*. Sheffield, UK.: Employment Department.

Iaffaldano, M. and P. Muchinsky (1985). Job satisfaction and job performance: a meta analysis. *Psychological Bulletin* 97: 251-273.

Ichniowski, C. (1992). Human resource practices and productive labor-management relations. In *Research Frontiers in Industrial Relations and Human Resources*. Edited by D. Levin, O. Mitchell and P. Sherer. Madison, WI: Industrial Relations Research Association.

Ichniowski, C. and K. Shaw (1995). Old dogs and new tricks: determinants of the adoptions of productivity-enhancing work practices. In *Brookings Papers on Economic Activity*. Washington, D.C.: Edited by M. Bailey, P. Reiss and C. Winston.

____ (1999). The effects of human resource management systems on economic performance: an international comparison of US and Japanese plants. *Management Science* 45: 704-21.

Ichniowski, C., K. Shaw and G. Prennushi (1997). The effects of human resource management practices on productivity: A study of steel finishing lines. *American Economic Review* 87: 291-313.

Ichniowski, C. et al. (1996). What works at work: overview and assessment. *Industrial Relations* 35: 299-333.

Industry Canada (2002). *Achieving Excellence: Investing in People, Knowledge and Opportunity*. Ottawa: Industry Canada.

Ivancevich, J. M. (1974). Effects of the shorter workweek on selected satisfaction and performance measures. *Journal of Applied Psychology* 57: 717-721.

Ivancevich, J. M. and H. L. Lyon (1977). The shortened workweek: A field experiment. *Journal of Applied Psychology* 62: 34-37.

Jain, H. and R. Hackett (1989). Measuring effectiveness of employment equity programs in Canada. *Canadian Public Policy* 25: 189-204.

Jain, H. and A. Verma (1996). Managing work force diversity for competitiveness: The Canadian experience. *International Journal of Manpower* 17: 14-29.

Jamal, M. and R. Crawford (1981). Consequences of extended work hours. *Human Resources Management* 20: 18-23.

Jeffery, R. W. et al. (1993). Effects of worksite health promotion on illness related absenteeism. *Journal of Occupational Medicine* 35: 1142-1146.

Jenkins, G. D, Jr., G. E. Ledford, Jr., N. Gupta and D. H. Doty (1992). *Skill-based Pay: Practices, Payoffs, Pitfalls, and Prescriptions*. Scottsdale, AZ: American Compensation Association.



BEST COPY AVAILABLE

Joesch, J. M. (1997). Paid leave and the timing of women's employment before and after birth. *Journal of Marriage and the Family* 59: 1008-1021.

Jones, D. C. and T. Kato (1993). Employee stock ownership plans and productivity in Japanese manufacturing firms. *British Journal of Industrial Relations* 31: 331-346.

____ (1995). The productivity effects of employee stock-ownership plans and bonuses: Evidence from Japanese panel data. *The American Economic Review* 85: 391-414.

Kahn, L. M. and P. D. Sherer (1990). Contingent pay and managerial performance. *Industrial and Labor Relations Review* 43: 107S-120S.

Kalleberg, A. and J. Moody (1996). Human resource management and organizational performance. In *Organizations in America: Analyzing their Structure and Human Resource Practices*. Thousand Oaks, CA.: Sage.

Kaman, R. L. (1987). Costs and benefits of corporate health promotion. *Fitness in Business* 2: 39-44.

Katz, H. C., T. A. Kochan and J. H. Keefe (1987). Effects of industrial relations on productivity: Evidence from the automobile industry. *Brookings Papers on Economic Activity* 3.

Katz, P. and J. Showstack (1990). Is it worth it? Evaluating the economic impact of worksite health promotion. *Occupational Medicine* 5: 837-851.

Katzell, R., D. Thompson and R. Guzzo (1992). How job satisfaction and job performance are and are not linked. In *Job Satisfaction: How People Feel About their Jobs and How it Affects their Performance*. Edited by C. Cranny, P. Smith and E. Stone. Lexington, MA: Lexington Books.

Kaufman, R. (1992). The effects of IMPROSHARE on productivity. *Industrial and Labor Relations Review* 45: 311-322.

Kerr, J. and M. Voss (1993). Employee fitness programs, absenteeism and general well being. *Work and Stress* 7: 179-190.

Kim, J. and A. Campagna (1981). Effects of flexitime on employee attendance and performance: A field experiment. *Academy of Management Journal* 24: 729-741.

Kling, J. (1995). High performance work systems and firm performance. *Monthly Labor Review* 118: 29-36.

Kochan, T. A., H. C. Katz and N. R. Mower (1984). *Worker Participation and American Unions: Threat or Opportunity*. Kalamazoo, Mich.: W. E. Upjohn Institute for Employment Research.

Kondrasuk, J. (1980). Company physical fitness programs: salvation or fad? *Personnel Administrator* 25: 47-61.

Kopelman, R. (1986). *Managing Productivity in Organizations*. New York: McGraw-Hill.

Koslowsky, M., A. Sagie, M. Krausz and A. D. Singer (1997). Correlates of employee lateness: Some theoretical considerations. *Journal of Applied Psychology* 82: 79-88.

Kossek, E. E. and V. Nichol (1992). The effects of on-site child care on employee attitudes and performance. *Personnel Psychology* 45: 485-509.

Kossek, E. E. and Ozeki (1998). Work-family conflicts, policies, and on the job-life satisfaction relationships: a review and directions for organizational behavior human resources research. *Journal of Applied Psychology* 83: 139-149.

Kotlikoff, L. and D. Wise (1987). The incentive effect of private pension plans. In *Issues in pension economics*. Edited by Z. Bodie, J. Shoven and D. Wise. Chicago: University of Chicago Press.

KPMG (1998). 1997 *Telecommunity Survey*. Toronto: KPMG.

Krahn, H. and G. Lowe (1998). *Work, Industry and Canadian Society*, 3rd ed. Scarborough: ITP Nelson.

Kraft, K. (1991). The incentive effects of dismissals, efficiency wages, piece-rates, and profit-sharing. *Review of Economics and Statistics* 73: 451-459.

Krausz, M. and N. Freibach (1983). Effects of flexible working time for employed women upon satisfaction, strains, and absenteeism. *Journal of Occupational Psychology* 56: 155-159.

Krueger, A. and C. Rouse (1998). The effects of workplace education on earnings, turnover and job performance. *Journal of Labor Economics* 16: 61-94.

Kruse, D. (1993). *Profit sharing: Does it make a difference?* Kalamazoo, MI: Upjohn Institute for Employment Research.

____ (1996). Why do firms adopt profit-sharing and employee ownership plans? *British Journal of Industrial Relations* 34: 515-538.

Lam, H. and Y. Reshef (1999). Are quality improvement and downsizing compatible? *Relations industrielles/Industrial Relations* 54: 727-747.

Lambert, S. J. (1995). An investigation of workers' use and appreciation of supporting workplace policies. *Academy of Management Journal* (Special Issue): 136-140.

____ (2000). Added benefits: the link between work-life benefits and organizational citizenship behavior. *Academy of Management Journal* 43: 801-815.

Lanoie, P., F. Raymond, B. Shearer (1996). Work sharing and productivity: Evidence from a natural experiment. *CIRANO - Scientific Series 96s-06*. Montreal.

Larouche, V. and J. Trudel (1983). The quality of working life and the flexible schedule. *Relations industrielles/Industrial Relations* 38: 568-597.

Larsson, G. (1987). Routinization of mental training in organizations: effects on performance and well being. *Journal of Applied Psychology* 2: 88-96.

Latack, J. C. and L. W. Foster (1985). Implementation of compressed work schedules: Participation and job redesign as critical factors for employee acceptance. *Personnel Psychology* 38: 75-92.

Latham, G. P. and D. L. Dessett (1978). Designing incentive plans for unionized employees: A comparison of continuous and variable rates reinforcement schedules. *Personnel Psychology* 31:47-61.

Lattimer, R. L. (1995). *Managing Diversity for Strategic and Competitive Advantage*. New York: Doubleday Books.

Lawler III, E. E. (1971). *Pay and Organizational Effectiveness: A Psychological View*. New York: McGraw-Hill.

___ (1988). Pay for performance: Making it work. *Personnel* 65: 22-27.

___ (1990). *Strategic Pay: Aligning Organizational Strategies and Pay Systems*. San Francisco: Jossey-Bass.

Lawler, E. E., S. A. Mohrman and G. E. Ledford (1992). *Employee Involvement and Total Quality Management*. San Francisco: Jossey Bass.

____ (1995). *Creating High Performance Organizations*. San Francisco, Jossey-Bass.



BEST COPY AVAILABLE

Lazear, E. (1983). Pensions as Severance Pay. In *Financial Aspects of the United States Pension System.* Edited by Z. Bodie and J. Shoven. Chicago: University of Chicago Press.

____ (1990). Pensions and deferred benefits as strategic compensation. *Industrial Relations* 29: 263-80.

Lazear, E. and R. Moore (1988). Pensions and turnover. In *Pensions in the US Economy.* Edited by Z. Bodie, J. Shoven and D. Wise. Chicago: University of Chicago Press.

Leatt, P., H. Hattin, C. West and R. Shephard (1988). Seven year follow-up of employee fitness program. *Canadian Journal of Public Health* 79: 20-25.

LeBlanc, P. V. (1991). Skill-based pay case number 2: Northern Telecom. *Compensation and Benefits Review* 23: 39-56.

Leckie, N., A. Léonard, J. Turcotte and D. Wallace (2001). *Employer and Employee Perspectives on Human Resource Practices.* Ottawa: Statistics Canada, Human Resources Development Canada.

Ledford, G. E., Jr. and G. Bergel (1991). Skill-based pay case number 1: General Mills. *Compensation and Benefits Review* 23: 24-38.

Ledford, G. E. Jr., E. E. Lawler III and S. A. Mohrman (1988). The quality circle and its variations. In *Productivity in Organizations: New Perspectives from Industrial and Organizational Psychology.* Edited by J. P. Campbell, R. J. Campbell, and Associates. San Francisco, CA: Jossey-Bass.

Ledford, G. E., Jr., W. R. Tyler and W. B. Dixey (1991). Skill-based pay case number 3: Honeywell ammunition assembly. *Compensation and Benefits Review* 23: 57-77.

Leonard, J. (1984). Antidiscrimination or reverse discrimination: The impact of changing demographics, Title VII, and affirmative action on productivity. *Journal of Human Resources* 19: 145-174.

____ (1990). Executive pay and firm performance. *Industrial and Labor Relations Review* 43: 13S-29S.

Levine, D. (1993). Worth waiting for? Delayed compensation, training and turnover in the United States and Japan. *Journal of Labor Economics* 11: 724-752.

Levine, D. I. and L. D. Tyson (1990). Participation, productivity, and the firm's environment. In *Paying for Productivity.* Edited by A. Blinder. Washington: The Brookings Institution.

Lewchuk, W. and D. Robertson (1996). Working conditions under lean production. *Asia Pacific Business Review* 2: 60-81.

Lillard, L. and H. Tan (1992). Private sector training: Who gets it and what are the effects? *Research in Labor Economics* 13: 1-62.

Lobel, S. A. (1999). Impacts of diversity and work-life initiatives in organizations. In *Handbook of Gender and Work.* Edited by G.N. Powell. Thousand Oaks: Sage.

Locke, E. A. and D. M. Schweiger (1979). Participation in decision-making: One more look. In *Research in Organizational Behavior.* Edited by B. M. Staw. Greenwich, Conn.: JAI Press.

Locke, E. et al. (1980). The relative effectiveness of four methods of motivating employee performance. In *Changes in Working Life.* Edited by K. Duncan, M. Gruneberg and D. Wallis. Chichester, England: Wiley Ltd.

Loden, M. and J. B. Rosener (1991). *Workforce America: Managing Employee Diversity as a Vital Resource.* Homewood, Illinois: Business One Irwin.

Loewenstein, M. A. and J. R. Spletzer (1998). Dividing the costs and returns to general training. *Journal of Labour Economics* 16: 142-171.

Long, R. (1978*a*). The effects of employee ownership on organizational identification, employee job attitudes, and organizational performance. *Human Relations* 31: 28-48.

____ (1978*b*). The relative effects of share ownership vs. control on job attitudes in an employee-owned company. *Human Relations* 31: 753-763.

____ (1979). Desires for and patterns of worker participation in decision-making after conversion to employee ownership. *Academy of Management Journal* 22: 611-617.

____ (1980). Job attitudes and organizational performance under employee ownership. *Academy of Management Journal* 23: 726-737.

____ (1982). Worker ownership and job attitudes: a field study. *Industrial Relations* 21: 196-214.

Long, R. J. (1989). Patterns of workplace innovations in Canada. *Relations Industrielles/Industrial Relations* 44: 805-825.

____ (2000). Employee profit sharing: Consequences and moderators. *Relations Industrielles/Industrial Relations* 55: 477-503.

Lowe, G. (2001). *Employer of Choice? Workplace Innovation in Government – A Synthesis Report.* Ottawa: Canadian Policy Research Networks.

Lowe, G. and G. Schellenberg (2001). *What's a Good Job? The Importance of Employment Relationships.* CPRN Study No. W|05. Ottawa: Canadian Policy Research Networks.

Lynch, L. M. (1991). The role of off-the-job vs. on-the-job training for the mobility of women workers. *American Economic Review* 81: 151-156.

____ (1992). Private sector training and the earnings of young workers. *American Economic Review* 82: 299-312.

Lynch, W., T. Golaszewski and A. Clearie (1990). Impact of a facility-based corporate fitness program on the number of absences from work due to illness. *Journal of Occupational Medicine* 32: 9-12.

MacDuffie, J. P. (1995). Human resource bundles and manufacturing performance: organizational logic and flexible production systems in the world auto industry. *Industrial and Labor Relations Review* 48: 197-221.

MacDuffie, J. P. and J. F. Krafcik (1992). Integrating technology and human resources for high-performance manufacturing: Evidence from the international auto industry. In *Transforming Organizations*. Edited by T. Kochan and M. Useem. Oxford: Oxford University Press.

Macy, B. and H. Izumi (1993). Organizational change, design, and work innovation: A meta-analysis of 131 North American Field Studies – 1961-1991. In *Research in Organizational Change and Development*. Edited by R. Woodman and W. Pasmore. JAI Press.

Main, B., C. O'Reilly and J. Wade (1993). Top executive pay: Tournament or team work? *Journal of Labor Economics* 11: 575-605.

Mangum, S., G. Mangum and G. Hansen (1990). Assessing the returns to training. In *New Developments in Worker Training*. Edited by L. Ferman, M. Hoyman, J. Cutcher-Gershenfeld and E. Savoie. Madison: Industrial Relations Research Association.

Manuso, G. (1980). Stress management in occupational settings. *Public Health Reports* 95: 99-108.

Marsden, D. and R. Richardson (1994). Performing for pay? The effects of "merit pay" on motivation in a public service. *British Journal of Industrial Relations* 32: 243-261.

McCampbell, A. S. (1996). Benefits achieved through alternative work schedules. *HR Human Resources Planning*. 19: 30-37.

McCarthy, M. and G. Rosenberg (1981). *Work Sharing: Case Studies*. Kalamazoo: Upjohn Institute for Employment Research.

McGuire, J. B. and J. R. Liro (1987). Absenteeism and flexible work schedules. *Public Personal Management* 16: 47-59.

McMullen, K., N. Leckie and C. Caron (1993). *Innovation at Work: The Working with Technology Survey, 1980-1991*. Kingston, ON: IRC Press.

Meier, G. (1979). *Job Sharing*. Kalamazoo: Upjohn Institute for Employment Research.

Meltz, N., F. Reid and G. Swartz (1981). *Sharing Work*. Toronto: University of Toronto Press.

Meyer, J. P., and N. J. Allen (1997). Meaning of commitment. In *Commitment in the Workplace: Theory, Research and Application*. Thousand Oaks, CA: Sage Publications.

Milgrom, P. and J. Roberts (1995). Complementarities and fit: Strategy, structure, and organizational change in manufacturing. *Journal of Accounting and Economics* 19: 179-188.

Milkman, R. (1997). *Farewell to the Factory: Auto Workers in the Late Twentieth Century*. Berkeley, CA: University of California Press.

Milkovich, G. (1988). A strategic perspective on compensation management. *Research in Personnel and Human Resource Management* 6: 263-288.

Milkovich, G. T. and L. R. Gomez (1976). Day care and selected employee work behaviors. *Academy of Management Journal* 19: 111-115.

Miller, K. I. and P. R. Monge (1986). Participation, satisfaction and productivity: a meta-analytic review. *Academy of Management Journal* 29: 727-753.

Miller, T. I. (1984). The effects of employer-sponsored child care on employee absenteeism, turnover, productivity, recruitment and job satisfaction: What is claimed and what is known. *Personal Psychology* 37: 277-289.

Mitchell, D. J. B., D. Lewin and E. E. Lawler (1990). Alternative pay systems, firm performance, and productivity. In *Paying for productivity: A Look at the Evidence*. Edited by A.S. Blinder. Washington, DC: Brookings Institution.

Montemayor, E. F. (1996). Congruence between pay policy and competitive strategy in high-performing firms. *Journal of Management* 22: 889-908.

Morgan, F. T. (1977). Your (flex) time may come. *Personnel Journal* 56: 82-85.

Murphy, K. J. (1985). Corporate performance and managerial remuneration: An empirical analysis. *Journal of Accounting and Economics* 7: 11-42.

____ (1986). Incentives, learning, and compensation: A theoretical and empirical investigation of management labor contracts. *Rand Journal of Economics* 17: 59-76.

Murphy, L. R. (1996). Stress management in work settings: A critical review of the health effects. *American Journal of Health Promotion* 11: 112-135.



BEST COPY AVAILABLE

Murphy, L. R. and S. Sorenson (1988). Employee behaviors before and after stress management training. *Journal of Occupational Behavior* 9: 173-182.

Murray, B. C. and B. Gerhart (1998). An empirical analysis of a skill-based pay program and plant performance outcomes. *Academy of Management Journal* 41:68-78.

Narayanan, V. K. and R. Nath (1982). A field test of some attitudinal and behavioral consequences of flexitime. *Journal of Applied Psychology* 67: 214-218.

National Council of Jewish Women (1987). *Accommodating Pregnancy in the Workplace*. New York: Author.

Nay, R. (1986). Worksite health promotions programs. *Compensation and Benefits Review* 18: 57-65.

Newton, K. (1996). *The Human Factor in Firms' Performance: Management Strategies for Productivity and Competitiveness in the Knowledge-Based Economy*. Ottawa: Industry Canada.

Nollen, S. D. (1979). Does flexitime improve productivity? *Harvard Business Review* 57: 12-22.

____ (1982). *New Work Schedules in Practice: Managing Time in a Changing Society*. Toronto: Van Nostrand Reinhold.

O'Brien, J. P. and L. P. Kroggel (1989). Training not trauma. *Personnel Journal* 68: 32-41.

O'Carolyn, T. (1987). Parenting time: Whose problem is it? *Personnel Administrator* 32: 58-63.

OECD (1993). *Employment Outlook*. Paris: Organisation for Economic Co-operation and Development.

Orpen, C. (1981). Effects of flexible working hours on employee satisfaction and performance: A field experiment. *Journal of Applied Psychology* 66: 113-115.

Osterman, P. (1982). Affirmative action and opportunity: A study of female quit rates. *Review of Economics and Statistics* 64: 604-613.

____ (1994). How common is workplace transformation and who adopts it? *Industrial Relations and Labor Relations Review* 47: 173-188.

____ (ed.) (1996). *Broken Ladders: Managerial Careers in the New Economy*. New York: Oxford University Press.

Paarsch, H. J. (1999). The response of worker effort to pieces rates: Evidence from the British Columbia tree-planting industry. *The Journal of Human Resources* 34: 643-667.

Paris, H. (1989). *The Corporate Response to Workers with Family Responsibilities*. Ottawa: Conference Board.

Parsons, D. (1986). The employment relationship. In *Handbook of Labor Economics*, Vol. 2. Edited by Ashenfelter and Layard. Amsterdam: Elsevier Science Publishers. Vol. 2.

____ (1990). The firm's decision to train. *Research in Labor Economics* 11: 53-76.

Peel, M. J. and N. Wilson (1990). Labour absenteeism: The impact of profit sharing, voice and participation. *International Journal of Manpower* 11: 7-15.

Pelletier, K. R. (1996). A review and analysis of the health and cost-effective outcome studies of comprehensive health promotion and disease prevention programs at the worksite: 1993-1995 Update. *American Journal of Health Promotion* 10: 380-388.



BEST COPY AVAILABLE

Pendleton, A., N. Wilson and M. Wright (1998). The perception and effects of share ownership: Empirical evidence from employee buy-outs. *British Journal of Industrial Relations* 36: 99-123.

Perry-Smith, J. and T. Blum (2000). Work-family human resource bundles and perceived organizational performance. *Academy of Management Journal* 43: 1107-1117.

Pesando, J. and M. Gunderson (1988). Retirement incentives contained in occupational pension plans and their implications for the mandatory retirement debate. *Canadian Journal of Economics* 21: 244-64.

Pesando, J., M. Gunderson and P. Shum (1992). Incentive and redistributive effects of private sector union pension plans in Canada. *Industrial Relations* 30: 179-94.

Pesando, J., D. Hyatt and M. Gunderson (1992). Early retirement pensions and employee turnover: an application of the option value approach. *Research in Labor Economics* 13: 321-337.

Peterson, D. J. (1980). Flexitime in the United States: The lessons of experience. *Personnel* 57:21-31.

Peterson, D. and D. Massengill (1988). Childcare programs benefit employers too. *Personnel* 65: 58-62.

Petty, M., M. G. McGee and J. Cavender (1984). A meta-analysis of the relationship between individual job satisfaction and individual performance. *Academy of Management Review* 9: 712-721.

Pfeffer, J. (1994). *Competitive Advantage Through People: Unleashing the Power of the Workforce*. Boston: Harvard University Press.

___ (1998). *The Human Equation*. Boston: Harvard Business School Press.

Pierce, J. L. and J. W. Newstrom (1980). Toward a conceptual clarification of employee responses to flexible working hours: A work adjustment approach. *Journal of Management* 6: 117-134.

___ (1982). Employee responses to flexible work schedules: An inter-organization, inter-system comparison. *Journal of Management* 8: 9-25.

___ (1983). The design of flexible work schedules and employee responses: relationships and process. *Journal of Occupational Behaviour* 4: 247-262.

Pierce, J. L., J. W. Newstrom, R. B. Dunham and A. E. Barber (1989). *Alternative Work Schedules*. Boston: Allyn and Bacon.

Pil, F. K. and J. P. MacDuffie (1996). The adoption of high-involvement work practices. *Industrial Relations* 35: 423-455.

Podsakoff, P. and L. Williams (1986). The relationship between job performance and job satisfaction. In *Generalizing from Laboratory to Field Settings*. Edited by E. Locke. Lexington, Mass: Lexington Books.

Pratt, J. (1999). *Costs/Benefits of Teleworking*. Lexington, Mass: International Telework Association.

Pyle, R. (1979). Performance measures for a corporate fitness program. *Human Resource Management* 18: 26-30.

Rajagopalan, N. (1996). Strategic orientations, incentive plan adoptions, and firm performance: Evidence from electric utility firms. *Strategic Management Journal* 18: 761-785.

Ralston, D. A., W. P. Anthony and D. J. Gustafson (1985). Employees may love flextime, but what does it do to the organization's productivity? *Journal of Applied Psychology* 70: 272-279.

Rapoport, R., L. Bailyn, J. Fletcher and B. Pruit (2002). *Beyond Work-Family Balance: Advancing Gender Equity and Workplace Performance*. San Francisco: Jossey-Bass.

Reid, F. (1982). UI-assisted worksharing as an alternative to layoffs: The Canadian experience. *Industrial Labor Relations Review* 35: 319-329.

Reynolds, S., E. Taylor and D. A. Shapiro (1993). Session impact and outcome in stress management-training. *Journal of Community and Applied Social Psychology* 3: 325-337.

Riddell, W. C. (1995). Human capital formation in Canada: recent developments and policy responses. In *Labour Market Polarization and Social Policy Reform*. Edited by K. Banting and C. Beach. Kingston, ON: Queen's University School of Policy Studies.

Rinehart, J., C. Huxley and D. Robertson (1997). *Just Another Car Factory? Lean Production and Its Discontents*. Ithaca, N.Y.: ILR Press.

Ritter, A. (1990). Dependent care proves profitable. *Personnel* 67: 12-16.

Robertson, G. (1973). *Selected Characteristics of Compressed Work Schedules in Ontario*. Toronto: Ontario Ministry of Labour.

Robertson, G. and P. Ferlejowski (1974). *Employee Attitudes Towards Compressed Work Schedules in Ontario*. Toronto: Ontario Ministry of Labour.

Ronen, S. (1981). *Flexible Working Hours*. New York: McGraw-Hill.

___ (1984). *Alternative Work Schedules. Selecting, Implementing and Evaluating*. Homewood, IL: Dow-Jones-Irwin.

Ronen, S. and S. Primps (1981). The compressed workweek as organizational change: Behavioral and attitudinal outcomes. *Academy of Management Review* 6: 61-74.

Roth, K. and S. O'Donnell (1996). Foreign subsidiary compensation strategy: An agency theory perspective. *Academy of Management Journal* 39: 678-703.

Rubenstein, S. (2000). The impact of co-management on quality performance: The case of the Saturn Corporation. *Industrial and Labor Relations Review* 53: 197-219.

Ruhe, J. and J. Eatman (1977). Effects of racial composition on small groups. *Small Group Behavior* 8: 479-486.

Russell, J., J. Terborg and M. Powers (1985). Organizational performances and organizational level training and support. *Personnel Psychology* 38: 849-853.

Rynes, S. L. and B. Gerhart (ed.) (2000). Bringing compensation into I/O psychology (and vice versa). In *Compensation in Organizations: Current Research and Practice*. San Francisco: Jossey-Bass.

Sallis, J. F. et al. (1987). Worksite stress management: A comparison program. *Psychology and Health* 1: 237-255.

Sarason, I. G., J. H. Johnson, J. P. Berberich and J. M. Siegal (1979). Helping police officers cope with stress: A cognitive-behavioral approach. *Journal of Community Psychology* 6. 593-603.

Scandura, T. A. and M. J. Lankau (1997). Relationships of gender, family responsibility and flexible work hours to organizational commitment and job satisfaction. *Journal of Organizational Behavior* 18: 377-391.

Schaeffer, R. (1978). Improving job opportunities for women from a U.S. corporate perspective. In *Equal Employment Opportunity for Women*. Edited by R. Steinberg Retner. Philadelphia: Temple University Press.

Schay, B. (1997). Paying for performance: Lessons learned in fifteen years of federal demonstration projects. In *New Strategies for Public Pay: Rethinking Government Compensation.* Edited by H. Risher and C. H. Fay. San Francisco: Jossey-Bass.

Schein, V. E., E. H. Mauner and J. F. Novak (1977). Impact of flexible working hours on productivity. *Journal of Applied Psychology* 62: 46-56.

Schramm, C. et al. (1978). *Workers Who Drink: Their Treatment in an Industrial Setting.* Lexington, Mass.: D.C. Health.

Schuster, M. and S. Rhodes (1985). The impact of overtime work on industrial accident rates. *Industrial Relations* 24: 234-46.

Seamonds, B. C. (1982). Stress factors and their effects on absenteeism in a corporate employee group. *Journal of Occupational and Environmental Medicine* 24: 393-397.

Shaiken, H., S. Lopez and I. Mankita (1997). Two routes to team production. *Industrial Relations* 36: 17-45.

Shain, M., H. Suurvali and M. Boutilier (1986). *Healthier Workers: Health Promotion and Employment Assistance Programs.* Lexington, Mass.: D.C. Health.

Shaw, J., J. Delery, G. D. Jenkins and N. Gupta (1998). An organization-level analysis of voluntary and involuntary turnover. *Academy of Management Journal* 39: 1-15.

Shepard, E., T. Clifton and D. Kruse (1996). Flexible work hours and productivity. *Industrial Relations* 35: 123-139.

Shephard, R. J. (1988). Fitness programs and industrial stress. In *1988 Year Book of Sports Medicine.* Chicago: Year Book Publishers.

Schuster, Michael (1984*a*). The Scanlon Plan: A Longitudinal Analysis. *Journal of Applied Behavioral Science* 20: 23-38.

____ (1984*b*). *Union-Management Cooperation.* Kalamazoo, Mich.: W. E. Upjohn Institute for Employment Research.

Simon, S. (1986). The survival of affirmative action in the 1980's. *Labour Studies Journal* 10: 275-286.

Sloan, R. and J. Grumm (1988). Does wellness in the workplace work? *Personnel Administrator* 33: 42-48.

Smith, D. (1978). *Report of the Task Force on Employment Assistance Programs.* Toronto: Addiction Research Foundation.

Smith, M. J., M. J. Collegan and D. L. Tasto (1982). Health and safety consequences of shift work in the food processing industry. *Ergonomics* 25:133-144.

Solomon, L. (1983). The other side of the smoking worker controversy. *Personnel Administrator* 29: 72-73, 101.

Sonnenstuhl, W. (1986). *Inside an Emotional Health Program.* Cornell: ILR Press.

Sonnenstuhl, W. and H. M. Trice (1990). *Strategies for Employee Assistance Programs: The Crucial Balance.* Ithaca, N.Y.: ILR Press.

Spletzer, J.R. and M.A. Loewenstein (1998). Dividing the costs and returns to general training. *Journal of Labor Economics* 16: 142-171.

Stanworth, C. and J. Stanworth (1997). Managing an externalized workforce. *Industrial Relations Journal* 28: 43-55.

Steele, J. L. and R. Poor (1970). Work and leisure: The reactions of people at 4-day firms. In *4 Days, 40 Hours*. Edited by R. Poor. Cambridge, MA: Bursk and Poor.

Steinmetz, J. I., R. M. Kaplan and G. L. Miller (1982). Stress management: an assessment questionnaire for evaluating interventions and comparing groups. *Journal of Occupational and Environmental Medicine* 24: 923-931.

Swart, J.C. (1985). Clerical workers on flexitime: A survey of three industries. *Personnel* 62: 40-44.

Tehranian, H. and J. Waegelein (1985). Market reaction to short-term executive compensation plan adoption. *Journal of Accounting and Economics* 7: 131-144.

Tersine, R. and J. Hazeldine (1982). Alcoholism: a productivity hangover. *Business Horizons* 25: 68-72.

Thacker, James W. and Mitchell W. Fields (1987). Union involvement in quality of worklife efforts: a longitudinal investigation. *Personnel Psychology* 40: 97-112.

Thomas, L. and D. C. Ganster (1995). Impact of family-supportive work variables on work-family conflict and strain: A control perspective. *Journal of Applied Psychology* 80: 6-15.

Thomas, R. R. (1991). *Beyond Race and Gender: Unleashing the Power of Your Total Work Force by Managing Diversity*. New York: AMACOM.

Treasury Board of Canada Secretariat (2001). *Study of Human Resource Benchmarking and Best Practices*. Ottawa: Treasury Board of Canada Secretariat.

Tsai, S. P., W. B. Baun and E. J. Bernacki (1987). Relationship of employee turnover to exercise adherence in a corporate fitness program. *Journal of Occupational Medicine* 29: 572-575.

U.S. Department of Labor (1993). *High Performance Work Practices and Firm Performance*. Washington, DC: U.S. Government Printing Office.

U.S. General Accounting Office (1987). *Survey of Corporate Employee Involvement Efforts*. Washington, DC: General Accounting Office.

Venn, R. (1997). The impact of compressed workweeks on absenteeism: the case of Ontario prison guards on a twelve-hour shift. *Relations industrielles/Industrial Relations* 52: 382-400.

Verma, A. (1989). Joint participations programs: self-help or suicide for labor? *Industrial Relations* 28: 401-410.

Verma, A. and Z. Lonti (2001). *Changing Government Workplaces*. Discussion Paper No. W|11. Ottawa: Canadian Policy Research Networks.

Verma, A. and R. B. McKersie (1987). Employee involvement programs: the implications of non-involvement by unions. *Industrial and Labor Relations Review* 40: 556-568.

Verma, A. and D. Taras (2000). Employee involvement at the workplace. In *Union-Management Relations in Canada*. Edited by M. Gunderson, A. Ponak and D. Taras. Toronto: Addison-Wesley.

Veum, J. (1995). Sources of training and their impact on wages. *Industrial and Labor Relations Review* 48: 812-826.

Wagar, T. (1993). *Human Resource Management Practices and Organizational Performance: Evidence from Atlantic Canada*. Kingston, ON: IRC Press.

____ (1996). *Employee Involvement, Strategic Management and Human Resources: Exploring the Linkages*. Kingston, ON: Queen's University, Industrial Relations Centre.



BEST COPY AVAILABLE

Wagner, J. A. (1994). Participation's effects on performance and satisfaction: a reconsideration of research evidence. *Academy of Management Review* 19: 312-330.

Wagner, W. (1982). Assisting employees with personal problems. *Personnel Administrator* 1982: 59-64.

Walch, J. L. and D. Gordon (1980). Assessing the impact of flexitime on productivity. *Business Horizons* 23: 61-65.

Warner, K. E. et al. (1988). Economic implications of workplace health promotion program: Review of the literature. *Journal of Occupational Medicine* 30: 106-112.

Watson, W. E., K. Kumar and L. Michaelsen (1993). Cultural diversity's impact on interaction process and performance: Comparing homogeneous and diverse task group. *Academy of Management Journal* 36: 590-602.

Weber, C. (1994). *Effects of Personnel and Human Resource Practices on Firm Performance: A Review of the Literature*. Kingston, ON: IRC Press.

Weis, W. L. (1981*a*). Can you afford to hire smokers. *Personnel Administrator* 26: 71-78.

___ (1981*b*). Profits in smoke. *Personnel Journal* 60: 162-166.

Weiss, R. M. (1987). Writing under the influence: Science versus fiction in the analysis of corporate alcoholism programs. *Personnel Psychology* 40: 341-356.

Weitzman, L. M. and D. L. Kruse (1990). Profit-sharing and productivity. In *Paying for Productivity: A Look at the Evidence*. Edited by A. Blinder. Washington, DC: Brookings Institution.

Welbourne, T. and A. Andrews (1996). Predicting the performance of initial public offerings: Should human resource management be in the equation? *Academy of Management Journal* 39: 891-919.

Welbourne, T., D. B. Balkin and L. R. Gomez-Mejia (1995). Gainsharing and mutual monitoring: A combined agency-organizational justice interpretation. *Academy of Management Journal* 38: 881-899.

Welbourne, T. and L. Gomez-Mejia (1995). Gain-sharing: A critical review and future research agenda. *Journal of Management* 21: 559-609.

Welch, J. R. and D. Gordon (1980). Assessing the impact of flexitime on productivity. *MSU Business Horizons* 23: 61-65.

Williams, K. R. (1986). Linking risk avoidance and insurance coverage. *Personnel Administrator* 31: 68-76.

Wilson, N. and M. J. Peel (1991). The impact of absenteeism and quits of profit-sharing and other forms of employee participation. *Industrial and Labor Relations Review* 44: 454-468.

Wood, S. (1996). High commitment management and payment systems. *Journal of Management Studies* 33: 53-77.

___ (1999). Getting the measure of the transformed high-performance organization. *British Journal of Industrial Relations* 37: 391-417.

Wright, T. and B. Staw (1999). Affect and favorable work outcomes: two longitudinal tests of the happy-productive worker thesis. *Journal of Organization Behaviour* 20: 1-23 (comments and reply p. 25-34).

Youndt, M. A., S. A. Snell, J. E. Dean and D. P. Lepal (1996). Human resource management, manufacturing strategy, and firm performance. *Academy of Management Journal* 39: 836-866.

Youngblood, S. and K. Chambers-Cook (1984). Child care assistance can improve employee attitudes and behavior. *Personnel Administrator* 29: 45-46.

Zenger, T. R. and C. R. Marshall (1995). Group-based plans: An empirical test of the relationship among size, incentive intensity and performance. *Academy of Management Journal* (Special Issue): 161-166.

Zippo, M. (1984). Flexitime in the utilities industry. *Personnel* 61: 42-44.

**CPRN Funding Sources**

Corporate Sponsors

- BCE Inc.
- Canadian Pacific Charitable Foundation
- Hydro-Québec
- IPSCO Inc.
- Power Corporation of Canada

**Special Thanks**

We would like to acknowledge the generous past support of the following federal government departments, who provided core funding to CPRN from its inception in December 1994 until March 31, 2000. Without such support, CPRN might not have become the vital contributor to innovative policy development in Canada that it is today.

- Canadian International Development Agency
- Citizenship and Immigration
- Fisheries and Oceans
- Health Canada
- Human Resources Development Canada
- Public Works and Government Services Canada
- Transport Canada

CE083601

D

**U.S. Department of Education**
*Office of Educational Research and Improvement (OERI)*
*National Library of Education (NLE)*
*Educational Resources Information Center (ERIC)*

# REPRODUCTION RELEASE

(Specific Document)

## I. DOCUMENT IDENTIFICATION:

Title: "Rethinking Productivity from a Workplace Perspective"

Author(s): Morley Gunderson

Corporate Source: Canadian Policy Research Networks Inc.

Publication Date: May, 2002

## II. REPRODUCTION RELEASE:

In order to disseminate as widely as possible timely and significant materials of interest to the educational community, documents announced in the monthly abstract journal of the ERIC system, *Resources in Education* (RIE), are usually made available to users in microfiche, reproduced paper copy, and electronic media, and sold through the ERIC Document Reproduction Service (EDRS). Credit is given to the source of each document, and, if reproduction release is granted, one of the following notices is affixed to the document.

If permission is granted to reproduce and disseminate the identified document, please CHECK ONE of the following three options and sign at the bottom of the page.

The sample sticker shown below will be affixed to all Level 1 documents

PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL HAS BEEN GRANTED BY

Sample

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

1

Level 1

☑

Check here for Level 1 release, permitting reproduction and dissemination in microfiche or other ERIC archival media (e.g., electronic) *and* paper copy.

The sample sticker shown below will be affixed to all Level 2A documents

PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL IN MICROFICHE, AND IN ELECTRONIC MEDIA FOR ERIC COLLECTION SUBSCRIBERS ONLY, HAS BEEN GRANTED BY

Sample

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

2A

Level 2A

☐

Check here for Level 2A release, permitting reproduction and dissemination in microfiche and in electronic media for ERIC archival collection subscribers only

The sample sticker shown below will be affixed to all Level 2B documents

PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL IN MICROFICHE ONLY HAS BEEN GRANTED BY

Sample

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

2B

Level 2B

☐

Check here for Level 2B release, permitting reproduction and dissemination in microfiche only

Documents will be processed as indicated provided reproduction quality permits.
If permission to reproduce is granted, but no box is checked, documents will be processed at Level 1.

*I hereby grant to the Educational Resources Information Center (ERIC) nonexclusive permission to reproduce and disseminate this document as indicated above. Reproduction from the ERIC microfiche or electronic media by persons other than ERIC employees and its system contractors requires permission from the copyright holder. Exception is made for non-profit reproduction by libraries and other service agencies to satisfy information needs of educators in response to discrete inquiries.*

**Sign here, → please**

| | |
|---|---|
| Signature: Judith Maxwell | Printed Name/Position/Title: JUDITH MAXWELL, PRESIDENT, CPRN |
| Organization/Address: CANADIAN POLICY RESEARCH NETWORKS SUITE 600, 250 ALBERT ST OTTAWA, ON K1P 6M1 | Telephone: 613-567-7501 FAX: 613-567-7640 |
| | E-Mail Address: Date: Aug 14, 2002 |

(Over)

## III. DOCUMENT AVAILABILITY INFORMATION (FROM NON-ERIC SOURCE):

If permission to reproduce is not granted to ERIC, *or*, if you wish ERIC to cite the availability of the document from another source, please provide the following information regarding the availability of the document. (ERIC will not announce a document unless it is publicly available, and a dependable source can be specified. Contributors should also be aware that ERIC selection criteria are significantly more stringent for documents that cannot be made available through EDRS.)

| |
|---|
| Publisher/Distributor: |
| Address: |
| Price: |

## IV. REFERRAL OF ERIC TO COPYRIGHT/REPRODUCTION RIGHTS HOLDER:

If the right to grant this reproduction release is held by someone other than the addressee, please provide the appropriate name and address:

| |
|---|
| Name: |
| Address: |

## V. WHERE TO SEND THIS FORM:

Send this form to the following ERIC Clearinghouse:

**Acquisitions Coordinator**
**ERIC Clearinghouse on Adult, Career, and Vocational Education**
**Center on Education and Training for Employment**
**1900 Kenny Road**
**Columbus, OH 43210-1090**

However, if solicited by the ERIC Facility, or if making an unsolicited contribution to ERIC, return this form (and the document being contributed) to:

**ERIC Processing and Reference Facility**
**4483-A Forbes Boulevard**
**Lanham, Maryland 20706**

**Telephone: 301-552-4200**
**Toll Free: 800-799-3742**
**FAX: 301-552-4700**
**e-mail: ericfac@inet.ed.gov**
**WWW: http://ericfacility.org**

EFF-088 (Rev. 2/2001)